

# Course descriptions

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## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KAIM1/L-S-VLa-004/19	<b>Course title:</b> Anaesthesiology and Intensive Medicine 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 15s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK_1/L-S-VLa-035/18 - Internal Propedeutics	
<b>Course requirements:</b> - 100% attendance at the practicals - more than 50% attendance at the lectures - written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: 3 question (anaesthesiology, resuscitation and emergencies, intensive medicine) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Basic principles of anaesthesiology, intensive medicine and resuscitation . Understanding the pathophysiology, pharmacology and clinical importance of basic clinical discipline AIM. <b>Knowledge:</b> theoretical knowledge - basics in anaesthesiology, resuscitation and intensive medicine according syllabus. <b>Skills:</b> Evaluation of patient for general anesthesia, preoperative evaluation on the basis of anamnesis , clinical examination, judgment of laboratory and imaging investigation. Airway management, oxygen therapy, management of circulatory failure, basic life support training on the manikin in simulation center. General characteristics of critical illness.. Early recognition and management of critical illness	
<b>Class syllabus:</b> 1. AIM – targets and position in clinical medicine . 2. Preoperative evaluation and preparing for anesthesia , premedication. 3. Perioperative care , fluid and oxygen therapy, acute postoperative management . 4. Anesthesia , regional and general, basic principles. 5. AIM for children – introduction and basic principles. 6. Anesthetics and the course of general anesthesia, principles of intravenous, inhalation general anesthesia .	

7. Multidisciplinárna intenzívna medicína v perioperačnej starostlivosti o kriticky chorých.
8. General principles and rationale for care of critical ill patients in intensive medicine. Evaluation of vital function, clinical and lab recognition of critical illness. Scoring.
9. Etiology, pathophysiology , diagnostics, monitoring and management of critical states, like shock, acute respiratory failure, ARDS, sepsis, MODS, renal failure.
10. Resuscitation and urgent medicine – pathophysiology and rationale management.
11. Basic Life support - use of automatic external defibrillation .
12. Advanced Life support – leader in team work. ERC guidelines 2021 . Prevention of the courses of cardiac arrest , outreach approach, MET.

**Recommended literature:**

LARSEN : Anestézia , 8. Vydanie , Praha Avicenum 2012, resp. LARSEN 9. Vydanie r. 2022, Textbook english – Morgan & Mikhail : Clinical Anaesthesiology , 5th Edition 2018 , ISBN 978-0-07-181669-4

Barash PG, Cullen B.F, Stoelting R.K a kol. Klinická anestéziológia , Praha Grada 2015. 6.vydání , ISBN 978-80-247-4053-9

Allman K.G, Wilson I.A: Oxford handbook of ANAESTHESIA , 3rd edition , OXFORD University Press, 2016 ,s. 1203 p. , ISBN 978-0-19-856609-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 623

A	B	C	D	E	FX
30,82	31,94	23,27	10,11	3,53	0,32

**Lecturers:** doc. MUDr. Roman Záhorec, CSc., MUDr. Juraj Koutun, CSc.

**Last change:** 28.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KAIM1/L-S-VLa-005/19	<b>Course title:</b> Anaesthesiology and Intensive Medicine 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 15s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.KAIM1/L-S-VLa-004/19 - Anaesthesiology and Intensive Medicine 1	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: oral exam - 2 questions (anaesthesiology, intensive care and resuscitation) and / or professional essay on a topic related to the global objectives of the course (distance learning in LMS Moodle). <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Upon successful completion of the educational program, the student will gain knowledge and understanding of the knowledge in accordance with the global learning objectives of the course. <b>Knowledge:</b> Anaesthesiology - principles of preoperative evaluation and patient preparation, premedication, anaesthesiological procedures, basic and advanced monitoring, postoperative care, including the possibilities of analgesia. Anaesthesiological procedures in selected surgical specialties. Anaphylaxis in the perioperative period. Intensive care - General principles of perioperative care for the critically ill and multidisciplinary intensive care, ICU organization, monitoring and treatment procedures. Etiology, pathophysiology, diagnosis and treatment plans and monitoring in selected critical conditions (shock, circulatory arrest, ALI / ARDS, instrumental lung ventilation, polytrauma, sepsis and MODS). Resuscitation - Basic and advanced life support, resuscitation, algorithms in resuscitation procedures, post-resuscitation care. Prevention of circulatory arrest, basics of teamwork. <b>Skills:</b> Upon successful completion of this course, students will be able to:	

Evaluate the patient in preoperative preparation, assess anamnestic, clinical and laboratory data, know how to predict, describe and design basic procedures for addressing airway disorders, circulatory disorders, severe injury management, practically manage cardiopulmonary resuscitation on the model. General characteristics of a critically ill patient. Applied physiology of vital functions.

**Class syllabus:**

1. AIM - roles and goals in medical care.
2. Preoperative evaluation and preparation of the patient for surgery.
3. Perioperative care and treatment of acute pain.
4. Anesthetic procedures in selected surgical departments.
5. AIM in pediatrics - basic principles.
6. Basic anaesthesiological procedures, drugs in anaesthesiology.
7. Multidisciplinary intensive care medicine in perioperative care of critically ill patients.
8. General principles of medical care in intensive care.
9. Etiology, pathophysiology, diagnostics and treatment plans and monitoring in selected critical conditions
10. Resuscitation - applied physiology in resuscitation procedures.
11. Basic resuscitation and automated external defibrillation.
12. Advanced resuscitation, hospital resuscitation, resuscitation team.
13. Prevention of circulatory arrest.

**Recommended literature:**

LARSEN : Anestézia , 8. Vydanie , Praha Avicenum 2012, resp. LARSEN 9. Vydanie r. 2022, Butterworth JF, Mackey D.C, Wasnick J.D. – Morgan & Mikhail s Clinical Anaesthesiology , 5th Edition 2013 , Lange medical book 2013, p. 1366 , ISBN 978\_0-07-181669-4  
Barash PG, Cullen B.F, Stoelting R.K a kol. Klinická anestéziologie , Praha Grada 2015. 6.vydání , ISBN 978-80-247-4053-9  
Allman K.G, Wilson I.H, Oxford handbook of ANAESTHESIA, thrid edition, OXFORD university Press, p. 1203 , 2014 , ISBN 978-0-19-856609-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 594

A	B	C	D	E	FX
55,72	32,32	9,43	1,52	1,01	0,0

**Lecturers:** doc. MUDr. Roman Záhorec, CSc., MUDr. Juraj Koutun, CSc.

**Last change:** 28.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.AÚ/L-S-VLa-001/16	<b>Course title:</b> Anatomy 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s / 36s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 8	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% participation on the practical exercises - Passing 1 written test with at least 60% points and 1 practical exam from the structures of the upper and lower limbs. - Written test with a minimum of 60% - Test evaluation: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less - Practical exam evaluation: A: excellent, B: very good, C: good, D: satisfactory, E: sufficiently, Fx: failed. Final mark of the semester is determined from the average of received scores.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - Know the architecture and structures of the human body in general. - Know the different parts of the musculoskeletal system. - Have knowledge of the morphological structure of the heart, arteries and veins of the systemic and pulmonary circulation. - Learn and study the structures and organs of the respiratory and lymphatic system. - Have knowledge of the basic concepts and structures of the central and peripheral nervous system. - To acquire and study anatomical structures and topographical regions of the upper and lower limbs. <b>Skills:</b> - Understand and use anatomical terminology. - Analyze the acquired knowledge from a morphological and clinical point of view. - Practical use of theoretical knowledge during dissection and practical exercises. - Recognize and describe radiological images depicting anatomical structures.	
<b>Class syllabus:</b> <b>Lectures:</b> - Introduction to anatomy (planes and directions of the human body, anatomical position, anatomical terminology). - General anatomy of bones and joints.	

- General anatomy of muscles, fascia, fascial compartments, spaces.
- Cardiovascular system – heart, arteries, veins.
- Nervous system – basic concepts.
- Peripheral nervous system – brachial plexus, lumbar plexus, sacral plexus.
- Lymphatic system – general description, lymphatic tissue in organs, thymus, spleen, lymphatic vessels and nodes.
- Topographical regions of the upper and lower limbs.
- Respiratory system – nasal cavity, paranasal sinuses, pharynx, larynx, trachea, bronchi, lungs, pleura.
- Radiological examination methods of the upper and lower limb.

**Practical exercises:**

- Skeleton of the upper limb.
- Joints of the upper limb.
- Muscles and topographical regions of the upper limb.
- Skeleton of the lower limb.
- Joints of the lower limb.
- Muscles and topographical regions of the lower limb.

**Dissection exercises:**

Upper limb: Landmarks and regions of the upper limb. Dissection of superficial veins and superficial nerves. Deltopectoral triangle. Dissection of the structures in the axillary fossa. Dissection of the structures in medial bicipital sulcus. Dissection of the structures in the cubital fossa. Dissection of the structures on the ventral side of the forearm. Dissection of the palm of the hand. Dissection of the structures on the dorsal side of the upper limb.

Lower limb: Landmarks and regions of the lower limb. Dissection of superficial veins and superficial nerves. Dissection of the structures in the femoral triangle and iliopectineal fossa. Dissection of the anterior crural region and the dorsum of the foot. Dissection of the medial retromalleolar region. Dissection of superficial veins and nerves on the dorsal side of the lower limb. Dissection of the structures in the suprapiriform and infrapiriform foramen. Dissection of structures in the popliteal fossa. Planta pedis dissection.

**Recommended literature:**

- PLATZER, W., SHIOZAWA-BAYER, T. Color Atlas of Human Anatomy. Vol. 1., Locomotor System. 8th ed. Stuttgart: Thieme, 2023. 472 p. ISBN 978-3-13-242443-2.
- FRITSCH, H. and KUEHNEL, W. Color Atlas of Human Anatomy. Vol. 2., Internal Organs. 7th ed. Stuttgart: Thieme, 2023. 467 p. ISBN 978-3-13-242448-7.
- KAHLE, W. and FROTSCHE, M., SCHMITZ, F. Color Atlas of Human Anatomy. Vol. 3., Nervous System and Sensory Organs. 8th ed. Stuttgart: Thieme, 2023. 414 p. ISBN 978-3-13-242451-7.
- NETTER, F.H. Netter Atlas of Human Anatomy: Classic Regional Approach. 8th ed. Philadelphia: Elsevier - Health Science, 2022. 712 p. ISBN 978-0-323-68042-4
- LOUKAS, M., BENNINGER, B. and TUBBS, R.S. Gray's Clinical Photographic Dissector of the Human Body. 2nd ed. Philadelphia: Elsevier, 2018. 480 p. ISBN 978-0-323-54417-7.
- DETTON, A.J. Grant's Dissector. 17th ed. Philadelphia: Lippincott Williams and Wilkins, 2024. 367 p. ISBN 978-1-975210-06-9.

**Languages necessary to complete the course:**

English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1616

A	B	C	D	E	FX
23,45	24,2	27,72	13,74	10,77	0,12

**Lecturers:** doc. MUDr. Eliška Kubíková, PhD., MPH, doc. MUDr. Anna Holomáňová, CSc., doc. RNDr. Ladislav Guller, CSc., MUDr. Hisham El Falougy, PhD., doc. MUDr. Zora Haviarová, PhD., RNDr. Petra Lukáčiková, PhD., RNDr. Melinda Takácsová, PhD., MUDr. Jana Bevilaqua, MUDr. Abdolreza Majidi, Mgr. Vladislava Zohdi, PhD., MUDr. Andrej Mifkovič, PhD., MUDr. Daniela Dovalová, MUDr. Tomáš Barczy, PhD., Mgr. Tomáš Havránek, PhD., MUDr. Osama Al - Khaldi, Stanislav Malakhov, PhD., prof. MUDr. Štefan Polák, CSc., Mgr. Katarína Bevizová, PhD., MUDr. Olia El Hassoun Sečanská, PhD.

**Last change:** 22.05.2024**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.AÚ/L-S-VLa-002/16	<b>Course title:</b> Anatomy 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s / 54s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 10	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.AÚ/L-S-VLa-001/16 - Anatomy 1	
<b>Course requirements:</b> 100% participation on the practical exercises. Passing 1 written test with at least 80% points and 2 practical exams (thorax, abdomen). Test evaluation: A: 200 -192, B: 191 –184, C: 183 –176, D: 175 –168, E: 167 –160, Fx: 159 -0. Practical exam evaluation: A: excellent, B: very good, C: good, D: satisfactory, E: sufficiently, Fx: failed. Practical examination from all structures, organs and spaces of thorax and abdomen. Final mark of the semester is determined from the average of received scores.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Understanding and knowing the morphological structure of the heart, arteries and veins of the systemic and pulmonary circulations.</li> <li>- Studying the different parts of the lymphatic system and the endocrine glands</li> <li>- Knowing the basic structures of the nervous system (the spinal cord and peripheral nerves).</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- To understand and handle the anatomical terminology</li> <li>- Analyzing of the gained knowledge from the morphological and functional point of views.</li> <li>- Practical usage of theoretical information in practical exercises and dissection of the thorax and abdomen.</li> <li>- Recognizing radiological images related to the anatomical structures present in thorax and abdomen.</li> </ul>	
<b>Class syllabus:</b> <b>Lectures:</b> <ul style="list-style-type: none"> <li>- Digestive system - basic concepts, oral cavity, teeth, salivary glands, esophagus, stomach, small intestine, large intestine, liver, bile ducts, pancreas, peritoneum.</li> <li>- Topographical regions – thorax, abdomen.</li> <li>- Urinary system – kidney, ureter, urinary bladder, urethra.</li> <li>- External and internal female genital organs.</li> <li>- External and internal male genital organs.</li> </ul>	

- Endocrine glands.
- Radiological examination methods – thorax and abdomen.

**Practical exercises:**

- Vertebrae, ribs, sternum.
- Joints of the vertebral column and thorax.
- Muscles and topographical regions of the thorax.
- Muscles and topographical regions of the abdomen, rectus sheath.
- Muscles and topographical regions of the back.

**Dissection exercises:**

- Thorax: Regions of the thorax. Identification points and lines on the thorax. Skeletotomy of lungs, pleura and heart and their surface projection onto the thoracic wall. Dissection of the intercostal space. Dissection of subcutaneous structures. Dissection of the mammary gland. Dissection of pectoral muscles, rami pectorales, nervi pectorales. Opening the thoracic cavity and study of localization of thoracic viscera. Dissection of anterior and superior mediastinum. Opening of the pericardium. Dissection of ascending aorta, arch of aorta, pulmonary trunk and pulmonary veins. Preparation of lung root (radix pulmonis). Study of external features of heart and lungs. Preparation of lung hilum (hilum pulmonis). Dissection of heart vessels. Incision and opening of heart chambers, study of heart interior. Dissection of the posterior mediastinum.

Abdomen: Regions of the abdomen. Identification points and lines on the abdomen. Surface projection of organs onto the abdominal wall. Preparation of the walls and content of the inguinal canal. Dissection of abdominal muscles. Opening of the abdominal cavity and study of abdominal viscera in situ. Peritoneal relations in the supramesocolic and inframesocolic compartment, lesser sac of peritoneum. Peritoneal folds. Dissection of vessels of the abdominal cavity. Study of macroscopic features of organs of the abdominal cavity. Dissection of retroperitoneal space. Topography of the retroperitoneal organs. Dissection of lumbar plexus. Dissection and study of organs in the lesser pelvis.

**Recommended literature:**

- Platzer, W. Color Atlas of Human Anatomy. Vol.1. Locomotor System. 7th rev ed. Stuttgart; New York: Georg Thieme Verlag, 2014. 480p. ISBN13 9783131494818
- Fritsch, H., Kuehnel, W. Color Atlas of Human Anatomy. Vol. 2. Internal organs. 6th ed. Stuttgart; New York: Georg Thieme Verlag, 2014. 458p. ISBN13 9781604065633
- Kahle, W., Frotscher M. Color Atlas of Human Anatomy. Vol. 3. Nervous System and Sensory Organs. 7th ed. Stuttgart; New York: Georg Thieme Verlag, 2015. 426p. ISBN13 9783131536761
- Netter, F. H. Atlas of Human Anatomy. 5th ed. Philadelphia: Saunders - Elsevier, 2010. 624p. ISBN: 978-1-4160-5951-6
- Paulsen, F., Waschke, J. Sobotta Atlas of Anatomy. Vol. 1. 16th ed., English/Latin. General Anatomy and Musculoskeletal System. Elsevier, 2018. 462p. ISBN: 9780702052699
- Paulsen, F., Waschke, J. Sobotta Atlas of Anatomy. Vol. 2. 16th ed., English/Latin. Internal Organs. Elsevier, 2018. 334 p. ISBN: 9780702052705
- Paulsen, F., Waschke, J. Sobotta Atlas of Anatomy. Vol. 3. 16th ed., English/Latin. Head, Neck and Neuroanatomy. Elsevier, 2018. 470 p. ISBN: 9780702052712
- Hansen J. T. Netter's Clinical Anatomy. 4th ed. Philadelphia: Saunders – Elsevier, 2019. 588p. ISBN: 978-0-323-53188-7

**Languages necessary to complete the course:**

English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1444

A	B	C	D	E	FX
23,75	19,6	30,89	18,7	5,96	1,11

**Lecturers:** MUDr. Hisham El Falougy, PhD., doc. MUDr. Eliška Kubíková, PhD., MPH, doc. MUDr. Anna Holomáňová, CSc., doc. MUDr. Zora Haviarová, PhD., RNDr. Petra Lukáčiková, PhD., MUDr. Marta Masárová, MUDr. Jana Bevilaqua, MUDr. Abdolreza Majidi, Mgr. Vladislava Zohdi, PhD., MUDr. Andrej Mifkovič, PhD., MUDr. Tomáš Barczy, PhD., MUDr. Daniela Dovalová, MUDr. Osama Al - Khaldi, Stanislav Malakhov, PhD., prof. MUDr. Štefan Polák, CSc., Mgr. Katarína Bevízová, PhD., Mgr. Tomáš Havránek, PhD., MUDr. Olia El Hassoun Sečanská, PhD.

**Last change:** 23.05.2024**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.AÚ/L-S-VLa-003/17	<b>Course title:</b> Anatomy 3
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s / 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 11	
<b>Recommended semester:</b> 3.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.AÚ/L-S-VLa-002/16 - Anatomy 2	
<b>Course requirements:</b> - 100% participation on the practical exercises - Passing 1 written test with at least 60% points and 1 practical exam from the structures of the head and neck, and the central nervous system. - Written test with a minimum of 60% - Test evaluation: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less - Practical exam evaluation: A: excellent, B: very good, C: good, D: satisfactory, E: sufficiently, Fx: failed. <b>Final exam:</b> - Practical part - Oral part (5 questions), the student has 50 minutes to prepare. - The student must first be successful in the practical part before he can take part in the oral exam. - exam evaluation: A: excellent, B: very good, C: good, D: satisfactory, E: sufficiently, Fx: failed.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - Acquire knowledge about the structures and organs of the central nervous system and the autonomic nervous system. - Acquire knowledge about the regions, organs, nerves and vessels of the head and neck. - Have knowledge about the skeleton and muscles of the head and neck - Gain knowledge about sense organs and skin. <b>Skills:</b> - Understand and use anatomical terminology. - Analyze the acquired knowledge from a morphological and clinical point of view. - Practical use of theoretical knowledge during dissection and practical exercises. - Recognize and describe radiological images depicting anatomical structures.	
<b>Class syllabus:</b> <b>Lectures:</b> - Spinal cord	

- Spinal nerves
- Medulla oblongata, pons.
- Mesencephalon, The fourth ventricle, reticular formation.
- nuclei of the cranial nerves, cranial nerves.
- Cerebellum.
- Telencephalon.
- Limbic lobe and olfactory pathways.
- Basal nuclei.
- Autonomic nervous system
- Sense organs
- Skin.

**Practical exercises:**

- Skull – viscerocranium.
- Skull – neurocranium.
- Joints of the bones of the skull.
- Muscles of the head and neck.
- Topographical regions of the head and neck.

**Dissection exercises:**

Head and neck: Surface markings and regions. Dissection of cutaneous nerves and veins. Dissection of the parotid region. Dissection of the oral region, facial vessels. Dissection of the submandibular triangle. Dissection of the carotid triangle. Dissection of the frontal, infraorbital and mental regions. Dissection of the lateral cervical region. Dissection of the occipital and posterior cervical regions. Central nervous system: Surface markings of the spinal medulla. Spinal nerve. Vertebral levels of the spinal cord segments. Removal of the brain from the skull. Cranial nerve projections from openings on the skull. Cranial meninges. Venous sinuses of the dura mater. Subarachnoid cisterns. Blood supply of the brain. Cranial nerve projections from the base of the brain. Surface features of the cerebral haemispheres. Brain stem. Cerebellum. Fourth ventricle. Diencephalon. Third ventricle. Basal nuclei. White matter of the cerebral haemisphere. Lateral ventricles.

**Recommended literature:**

- PLATZER, W., SHIOZAWA-BAYER, T. Color Atlas of Human Anatomy. Vol. 1., Locomotor System. 8th ed. Stuttgart: Thieme, 2023. 472 p. ISBN 978-3-13-242443-2.
- FRITSCH, H. and KUEHNEL, W. Color Atlas of Human Anatomy. Vol. 2., Internal Organs. 7th ed. Stuttgart: Thieme, 2023. 467 p. ISBN 978-3-13-242448-7.
- KAHLE, W. and FROTSCHE, M., SCHMITZ, F. Color Atlas of Human Anatomy. Vol. 3., Nervous System and Sensory Organs. 8th ed. Stuttgart: Thieme, 2023. 414 p. ISBN 978-3-13-242451-7.
- NETTER, F.H. Netter Atlas of Human Anatomy: Classic Regional Approach. 8th ed. Philadelphia: Elsevier - Health Science, 2022. 712 p. ISBN 978-0-323-68042-4
- LOUKAS, M., BENNINGER, B. and TUBBS, R.S. Gray's Clinical Photographic Dissector of the Human Body. 2nd ed. Philadelphia: Elsevier, 2018. 480 p. ISBN 978-0-323-54417-7.
- DETTON, A.J. Grant's Dissector. 17th ed. Philadelphia: Lippincott Williams and Wilkins, 2024. 367 p. ISBN 978-1-975210-06-9.

**Languages necessary to complete the course:**

English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1146

A	B	C	D	E	FX
14,92	15,53	24,87	20,33	15,62	8,73

**Lecturers:** doc. MUDr. Eliška Kubíková, PhD., MPH, doc. MUDr. Anna Holomáňová, CSc., MUDr. Hisham El Falougy, PhD., doc. MUDr. Zora Haviarová, PhD., Mgr. Vladislava Zohdi, PhD., RNDr. Petra Lukáčiková, PhD., MUDr. Andrej Mifkovič, PhD., MUDr. Tomáš Barczy, PhD., Mgr. Tomáš Havránek, PhD., prof. MUDr. Štefan Polák, CSc., Mgr. Katarína Bevízová, PhD.

**Last change:** 24.05.2024**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK_1/L-S-VLa-116/19	<b>Course title:</b> Angiology - Vascular medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 80% attendance at the lectures - working out a seminar work <b>Final exam:</b> - written test (minimum 60% of correct answers) - theoretical exam: 1 question <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge:</b> getting knowledge on reasons, clinical pathophysiology, contemporary diagnostic and therapeutic methods about diseases of the arterial, venous and lymphatic system <b>Skills:</b> ankle –brachial index measurement, basic orientation about ultrasound investigation of limb vessels, evaluation of angiographic findings, differential diagnosis of the diseases of vessels	
<b>Class syllabus:</b> Angiology - Vascular medicine – basic terms and definitions, history. Atherosclerosis as a generalized disease. Risk factors for atherosclerosis PAD - Peripheral arterial disease of extremities – diagnostic and conservative therapy. Ankle – brachial index measurement. Primary and secondary vasculitides. Giant cell arteritis. Takayasu arteritis. Winiwarter-Buerger disease. Raynaud’s syndrome and disease. Basic principles of invasive diagnostic and endovascular therapy of arterial diseases. Diseases of the aorta, aneurysms, dissections – etiopathogenesis, diagnostic and treatment. Disease of the carotid, renal and visceral arteries - etiopathogenesis, diagnostic methods and treatment. Deep venous thrombosis - etiopathogenesis, diagnostic methods and conservative therapy. Superficial venous thrombosis - etiopathogenesis, diagnostic methods and conservative treatment. Chronic venous disease and insufficiency. Ulcus cruris – differential diagnosis. Basic principles of endovascular therapy of venous diseases.	

Life threatening conditions in angiology/vascular medicine.  
Pain of the limbs – differential diagnosis.  
Oedemas of the limbs – differential diagnosis.

**Recommended literature:**

1. Kumar P, Clark, M.: Kumar and Clark's Clinical Medicine. Philadelphia: Saunders Ltd., 2012. 1352 s. ISBN-13: 978-0-7020-449-91
2. Goldman, L. et al. Goldman's Cecil Medicine. Philadelphia: W.B.Saunders, 2012. 2569 s. ISBN 9781437716047
3. Kalodiki E, Štvrtinová V, Allegra, C. et al: Superficial vein thrombosis: a consensus statement. In: International Angiology. - Vol. 31, No. 3 (2012), s. 203-216.
4. Andreozzi, GM, Kalodiki, E, Štvrtinová, V. et al: Consensus Document on Intermittent Claudication from the Central European Vascular Forum (CEVF)-3rd revision). In: International Angiology. - Vol. 33, No. 4 (2014), s. 329-347.
5. Maďarič J, Štvrtinová, V: Vybrané kapitoly z angiológie : Odporúčania a komentáre k diagnostickým a liečebným postupom vybraných vaskulárnych ochorení. - 1. vyd. - Bratislava : Slovak Academic Press, 2014. - 75 s.
6. Michiels, JJ, Moosdorf, W. Štvrtinová, V. et al: Diagnosis and treatment of DVT and prevention of DVT recurrence and the PTS: bridging the gap between DVT and PTS in the primary care setting or outpatient ward. In: Journal of Vascular Diagnostics and Interventions [on.line]. - Vol. 5 (2017), s. 21-34.
7. Kučera M, Čelovská D, Štvrtinová V: Vyšetrovacie metódy vo vaskulárnej medicíne. - 1. vyd. - Bratislava : SAP - Slovak Academic Press, 2020. - 108 s.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 89

A	B	C	D	E	FX
95,51	4,49	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Viera Štvrtinová, PhD., doc. MUDr. Juraj Maďarič, PhD., MPH

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KO/L-S-VLa-165/19	<b>Course title:</b> Basic surgical procedures in ophthalmology (orbit, adnexa and eyeglobe)
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals /lectures - 1 written test (minimum 60% of correct answers) + essay <b>Final exam:</b> - theoretical exam: 3 questions <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge:Skills :basic knowledge of anatomy, histopathology, general principles in surgery	
<b>Class syllabus:</b> Fundamentals of ophthalmic surgery. Course is a group os separate sections like orbital surgery, eyelid surgery and oculoplastics, cataract surgery, corneal diseases and refractive surgery, eye trauma, glaucoma, pediatric ophthalmology and strabismus, and vitreoretinal diseases surgery. Principles of pre and postop care of patients. Students will be able to participate in simulation of certain operations according to individual schedule.	
<b>Recommended literature:</b> 1. <a href="https://www.thieme.com/books-main/ophthalmology/product/1327-ophthalmic-surgical-procedures">https://www.thieme.com/books-main/ophthalmology/product/1327-ophthalmic-surgical-procedures</a> 2. <a href="https://eyetube.net/">https://eyetube.net/</a> 3. <a href="https://portal.fmed.uniba.sk/index-en.php?f=search&amp;q=">https://portal.fmed.uniba.sk/index-en.php?f=search&amp;q=</a>	
<b>Languages necessary to complete the course:</b> English	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 35					
A	B	C	D	E	FX
94,29	0,0	2,86	2,86	0,0	0,0
<b>Lecturers:</b> prof. MUDr. PhDr. Alena Furdová, PhD., MPH, MUDr. Jela Valášková, PhD., MPH					
<b>Last change:</b> 09.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KO/L-S-VLa-171/20	<b>Course title:</b> Basic surgical procedures in ophthalmology (orbit, adnexa and eyeglobe)
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals /lectures - 1 written test (minimum 60% of correct answers) + essay <b>Final exam:</b> - theoretical exam: 3 questions <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge:Skills :basic knowledge of anatomy, histopathology, general principles in surgery	
<b>Class syllabus:</b> Fundamentals of ophthalmic surgery. Course is a group os separate sections like orbital surgery, eyelid surgery and oculoplastics, cataract surgery, corneal diseases and refractive surgery, eye trauma, glaucoma, pediatric ophthalmology and strabismus, and vitreoretinal diseases surgery. Principles of pre and postop care of patients. Students will be able to participate in simulation of certain operations according to individual schedule	
<b>Recommended literature:</b> 1. <a href="https://www.thieme.com/books-main/ophthalmology/product/1327-ophthalmic-surgical-procedures">https://www.thieme.com/books-main/ophthalmology/product/1327-ophthalmic-surgical-procedures</a> 2. <a href="https://eyetube.net/">https://eyetube.net/</a> 3. <a href="https://portal.fmed.uniba.sk/index-en.php?f=search&amp;q=">https://portal.fmed.uniba.sk/index-en.php?f=search&amp;q=</a>	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 29					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> prof. MUDr. PhDr. Alena Furdová, PhD., MPH, MUDr. Jela Valášková, PhD., MPH					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023					
<b>University:</b> Comenius University Bratislava					
<b>Faculty:</b> Faculty of Medicine					
<b>Course ID:</b> LF.KK/L-S-VLa-175/22		<b>Course title:</b> Basics of clinical cardiology			
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning					
<b>Number of credits:</b> 2					
<b>Recommended semester:</b> 10.					
<b>Educational level:</b> I.II.					
<b>Prerequisites:</b>					
<b>Course requirements:</b> - 100% participation at the practical exercises - to pass 1 written exam (at least 60 % required - evaluation of the exam: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less - practical exam (patient examination) The overall evaluation is determined from the average of obtained evaluations					
<b>Learning outcomes:</b> Knowledge: Diagnostics and differential diagnostics of common cardiological syndromes Skills: ECG assessment, ability to indicate non-invasive and invasive examinations relevant to the working diagnosis, basics of interpretation of findings.					
<b>Class syllabus:</b> Course “Basics of clinical cardiology” combines theoretical teaching with clinical patient examination, ECG , X-ray description and analysis of the available imaging studies. Student learns to build up a working diagnosis , design a plan of additional examinations and patient management. Main topics are: Syncope; Acute short of breath; Acute coronary syndromes; Arterial hypertension; Atrial fibrillation; Chronic SZ; Interventional cardiology; Pulmonary hypertension; Cardiomyopathy; Chronic coronary heart disease; Sudden cardiac death					
<b>Recommended literature:</b> Chizner MA. Clinical Cardiology made ridiculously simple, MedMaster Inc, Miami, 2016					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 5					
A	B	C	D	E	FX
40,0	40,0	20,0	0,0	0,0	0,0

<b>Lecturers:</b> doc. MUDr. Eva Goncalvesová, CSc.
<b>Last change:</b> 30.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLBG/L-S-VLa-006/16	<b>Course title:</b> Biology and Human Genetics 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the practicals 2 seminar work 2 written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Learning outcomes: To gain basic information about cell morphology and physiology and about molecular biology and genetics. Knowledge: <ul style="list-style-type: none"> <li>- Morphology, physiology and genome of prokaryotic and eukaryotic cells</li> <li>- Morphology, function and biogenesis of cell organelles</li> <li>- Cell transport, intercellular spaces and intercellular communication, cell receptors</li> <li>- Reproduction and cell cycle of eukaryotic cells</li> <li>- Cell and tissue cultures</li> <li>- Infectious diseases caused by prokaryotic and single-cellular organisms, their life cycle</li> <li>- Types of microscopes, their design and usage possibilities</li> <li>- Basics of relation between micro- and macroorganisms</li> <li>- Viral genome characteristics and reproduction</li> <li>- Molecular biology: structure and function of DNA and RNA, DNA replication, transcription, translation and their regulation, the genetic code, the genes of prokaryotic and eukaryotic cells, gene expression, form of existence and entry of foreign DNA in a cell</li> <li>- Insertion sequences and transposons, antibiotic resistance (R plasmids, DNA recombination, recombinant techniques, vectors), gene therapy</li> <li>- Obtaining and material processing for DNA analysis, isolation of nucleic acids</li> <li>- An overview of the basic methods used in molecular genetics and the possibilities of their usage</li> </ul>	

**Skills:**

- Enhancing the skills of the microscopic techniques (light microscopy)
- Preparation of native and simple fixed microscopic specimens
- Cultivation of eukaryotic cells and tissues in vitro
- Morphological diagnosis of bacterial and some parasitic protozoa
- Utilization of selected methods of molecular genetics - the obtaining, incubation and storage of biological material, isolation of DNA from tissue, gel separation of DNA fragments, DNA quantitation, restriction, blotting, DNA denaturation and renaturation

**Class syllabus:**

Cell as the basic structural and functional unit: morphology, cell surfaces, nucleus, nucleolus, mitochondria, endoplasmic reticulum, ribosomes, Golgi apparatus, lysosomes, cytoskeleton. Intercellular spaces and intercellular communication. Transport of substances - glycocalix, membrane receptors. Cell cycle: amitosis, mitosis (mitotic apparatus, endomitosis). Cell and tissue cultures. In vitro cell culture conditions, culture process, regenerative medicine. Viruses: genome, reproduction, mutations and recombinations, oncogenic viruses and acute transforming viruses. Prokaryotic cells - morphology, structure, genome. Parasexual process in bacteria and CRISPR/Cas system. Differences between prokaryotes and eukaryotes. Protista. Molecular biology: structure of DNA and RNA, denaturation and renaturation of DNA, replication of DNA, transcription, translation, regulation of proteosynthesis and post-translational modifications, genetic code. Genes of prokaryotic and eukaryotic cells, insertion sequences and transposons, resistance to antibiotics (plasmids, recombinant DNA technology, vectors). DNA analysis and application of molecular biology in medical practice.

**Recommended literature:**

Repiská Vanda, Böhmer Daniel, Danišovič Ľuboš, Klimová Daniela: Medical biology and molecular genetics. Bratislava: Comenius University Bratislava, 2020. - 306 p. ISBN 978-80-223-4984-0

Nussbaum, R.L., McInnes, R.R., Willard, H.F.: Thompson & Thompson Genetics in medicine. 8th edition. Elsevier, Philadelphia. 2016; 546 p.

Alberts, B., et al. Molecular biology of cell. 6th edition. Garland Science, New York. 2015; 1464 p.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 1633

A	B	C	D	E	FX
6,25	18,98	30,43	27,5	15,06	1,78

**Lecturers:** doc. MUDr. Daniel Böhmer, PhD., prof. RNDr. Vanda Repiská, PhD., MPH, MUDr. Tatiana Braxatorisová, CSc., doc. RNDr. Ľuboš Danišovič, PhD., doc. Ing. Helena Gbelcová, PhD., RNDr. Ľubica Krajčiová, PhD., RNDr. Marcela Kuniaková, PhD., RNDr. Jana Malová, PhD., RNDr. Robert Petrovič, PhD., RNDr. Anna Totková, PhD., RNDr. Zuzana Varchulová Nováková, PhD., MUDr. Patrik Víťazka, PhD., RNDr. Andrea Pastoráková, PhD., RNDr. Petra Priščáková, PhD.

**Last change:** 28.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLBG/L-S-VLa-007/16	<b>Course title:</b> Biology and Human Genetics 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 7	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚLBG/L-S-VLa-006/16 - Biology and Human Genetics 1	
<b>Course requirements:</b> 100% attendance at the practicals 1 seminar work 2 written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. Final exam: a) test (minimum 60% of correct answers) b) theoretical exam: 3 questions (cytology,molecular genetics, human genetics)	
<b>Learning outcomes:</b> To gain knowledge about normal and pathological genetic traits in man, their etiology and diagnostics. Knowledge: <ul style="list-style-type: none"> <li>- Organization of the human genome: types of DNA, gene structure, homeoboxes and homeodomain DNA - histone complex, the human genome project</li> <li>- Chromosomal inheritance, the structure of chromosomes, nomenclature, identification techniques</li> <li>- Meiosis, differences between spermiogenesis and oogenesis, disorders and their consequences</li> <li>- Cell cycle regulation</li> <li>- Molecular mechanisms of cell cycle deregulation</li> <li>- Molecular basis of carcinogenesis - oncogenes, their function in the body</li> <li>- Oncogenes mutations and their relation to malignancy</li> <li>- Biology of the most common forms of cancer: breast, prostate and ovary, gestational trophoblastic disease, familial cancer</li> <li>- Tumor suppressor genes - their function and type of mutations</li> <li>- Cell death and apoptosis</li> <li>- Mutagenesis, distribution and mutagens basic characteristics, reparation mechanisms</li> <li>- Syndrome of increased spontaneous chromosomal instability</li> </ul>	

- Malignant diseases associated with typical rearrangement of chromosomes
- Basic methods of human genetics (twin studies, genealogical method, population genetics)
- Monogenic disease (autosomal dominant and recessive inheritance, X-linked dominant and recessive inheritance)
- Multifactorial inheritance of quantitative and qualitative traits - normal variability
- Congenital defects with multifactorial inheritance
- Pathologies based on multifactorial type of inheritance, congenital developmental defects, civilization diseases, threshold effect theory, predisposition to civilization diseases, possibilities of prenatal diagnosis
- Classical cytogenetics (interphase and mitosis)
- Chromosomal aberrations in humans (numeric, structural), the mechanism of their formation, frequency and the type of the most common chromosomal aberrations, the risk of recurrence, aberrations of sex chromosomes X and Y, effect of gene dosage, mosaicism
- The frequency of birth defects in the miscarriages population in newborns, prenatal genetic diagnosis and prognosis
- Molecular basics of embryogenesis, the role of apoptosis
- Teratogenesis - basic characteristics, mechanism of action, possibilities of differential diagnosis

**Skills:**

- The ability to establish the proportion of hereditary and non-hereditary factors in the trait development
- Design the standard family tree
- Application of Hardy-Weinberg law
- Cytogenetic analysis in interphase (X and Y chromatin)
- Cytogenetic analysis in metaphase
- Determination of the risk of the most common chromosomal aberrations according to their type, parents age, or by meiosis process
- Determination of the risk of transmission of structural chromosomal aberrations
- Mutagens testing evaluation (gene mutations, chromosomal aberrations, reparation tests) comparison of positive or negative control and mutagens

**Class syllabus:**

**Syllabus:**

Chromosomal base of inheritance: structure of chromosomes, nomenclature, methods of identification. Meiosis. Differences between spermatogenesis and oogenesis. Classification of inherited diseases: single gene (autosomal dominant, codominant and recessive, X-linked), interaction of genes. Chromosomal aberrations, mechanisms of origin, frequencies. Aberrations of chromosomes X and Y and gene dosage effect. Mosaicism. Organization of human genome: Human Genome Project (HGP) - goals, results and ethical issues associated with the project, types of DNA, structure of gene, homeoboxes and homeodomains. DNA-histones complex. Cell cycle regulation. Oncogenesis - molecular base of cancerogenesis, oncogenes, their function in organism, c-onc, v-onc. Mutations of oncogenes, relation to malignancy. Tumor suppressor genes (TSG) - function, character of TSG mutations. Multistep theory, gene dosage effect. DNA repair mechanisms. Syndromes of increased spontaneous fragility of chromosomes. Neoplasmas associated with typical rearrangement of chromosomes. Molecular mechanisms of cell cycle deregulation. Gene therapy. Epigenetics. Apoptosis. Multifactorial and polygenic inheritance. Normal variability. Qualitative and quantitative traits, methods of genetical analysis. Pathological traits with multifactorial inheritance, malformations, civilisation diseases. Threshold effect. Predisposition to "civilisation" diseases. Mutagenesis, types and basic characteristics of mutagens. Mutation frequency. Molecular basis of embryogenesis, role of apoptosis in embryogenesis.

Teratogenesis - basic characteristics, mechanisms of origin, possibilities of differential diagnosis. Occurrence of congenital defects in populations of spontaneous abortions and newborns. Prenatal genetic diagnosis and prognosis.

**Recommended literature:**

Repiská Vanda, Böhmer Daniel, Danišovič Ľuboš, Klimová Daniela: Medical biology and molecular genetics. Bratislava: Comenius University Bratislava, 2020. - 306 p. ISBN 978-80-223-4984-0

Nussbaum, R.L., McInnes, R.R., Willard, H.F.: Thompson&Thompson Genetics in medicine. 8th edition. Elsevier, Philadelphia. 2016; 546 p.

Alberts, B., et al. Molecular biology of cell. 6th edition. Garland Science, New York. 2015; 1464 p

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1416

A	B	C	D	E	FX
30,72	13,84	19,92	11,94	15,82	7,77

**Lecturers:** doc. MUDr. Daniel Böhmer, PhD., prof. RNDr. Vanda Repiská, PhD., MPH, doc. RNDr. Ľuboš Danišovič, PhD., doc. Ing. Helena Gbelcová, PhD., RNDr. Ľubica Krajčiová, PhD., RNDr. Marcela Kuniaková, PhD., RNDr. Andrea Pastoráková, PhD., RNDr. Robert Petrovič, PhD., RNDr. Petra Priščáková, PhD.

**Last change:** 28.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-143/19	<b>Course title:</b> Brain - the base for human perception and cognition
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100 % presence in lectures and seminars Submitting of the written assignments and presentations Examination: final written assignment Evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % or less The overall rating is determined as the average of the marks for assignments and the mark for the final written assignment.	
<b>Learning outcomes:</b> <b>Knowledge:</b> By attending the course the student will understand clinical applications of theoretical knowledge on brain and its functions in prevention of brain disorders and management of brain diseases. They will receive the advanced knowledge on pathomechanisms in development of basic central nervous disorders with consequences on behavioural and cognitive functioning <b>Skills:</b> Students will improve their work with scientific literature and interpretation of obtained evidence based information in communication with patients using team based learning.	
<b>Class syllabus:</b> Complex functions of the brain. Functional organization of neural circuits. Neuronal signaling and neuronal plasticity. General principles of cognitive and behavioral neuroscience. Cognitive and behavioral disorders. Perception, attention and awareness and its disorders. Neurobehavioral and neurodevelopmental disorders in children focused on autism. Physiology and pathophysiology of emotions, behaviour and motivation. Higher brain functions including learning, memory and speech/language. Functional specialization of brain hemispheres and sexual dimorphism as the base for personalized medicine.	
<b>Recommended literature:</b> Fundamentals of Cognitive neuroscience: A beginner's Guide. Baars, B a Gage, N. Elsevier, 2013.	

The biology of the Mind, Gazzaniga, M.S., et al, WW Norton & Co, 2013  
Recent literature resources recommended by the teacher

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 106

A	B	C	D	E	FX
97,17	2,83	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Daniela Ostatníková, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KDP/L-S-VLa-118/19	<b>Course title:</b> Child and Adolescent Psychiatry
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.PK/L-S-VLa-063/19 - Psychiatry 2	
<b>Course requirements:</b> - 80% attendance at the lectures/practicals <b>Final exam:</b> - requisition: passing the exam in the subject Psychiatry 2 - theoretical exam: 1 question (content of the subject child and adolescent psychiatry)	
<b>Learning outcomes:</b> Knowledge: general knowledge in the field of child psychiatry, psychopathology, syndromology, nosological units, treatment and prevention. Skills: ability to realise pedopsychiatric assessment, to suggest basic examination procedures and comprehensive management in differential diagnostics	
<b>Class syllabus:</b> - Assessment in Pedopsychiatry (taking a history, differences between the Assessment of a child and an adult psychiatric patient) - Normal Child development and its abnormalities (attachment, specific development disorders of speech and language, specific disorders of school abilities) - Disorders of child-specific social relationships (Elective Mutism, Reactive Attachment Disorder, Disinhibited Social Engagement Disorder) - Child Abuse and Neglect Syndrome, Social Issues in Pedopsychiatry - Autism Spectrum Disorder - Mental retardation - Attention Deficit Hyperactivity Disorder - Conduct Disorder - Tics disorder, Sleep disorders - Disorders of elimination (enuresis, encopresis) - Anxiety disorders (including with onset in childhood) - Post-traumatic stress disorder, Acute Stress Disorder , Adjustment Disorders, - Obsessive Compulsive Disorder (specific in childhood) - Affective disorders: unipolar depressive disorder (specific in childhood) - Affective disorders: manic episode, bipolar disorder (specific in childhood)	

- Psychotic disorders: acute transient psychotic disorder, schizophrenia, schizoaffective (specific in childhood)
- Eating disorders (mental anorexia, mental bulimia)
- Substance Use disorders (specific in childhood)
- Internet Gaming Disorder (specifics in childhood)
- Principles of pharmacotherapy, psychotherapy (specifics in childhood)

**Recommended literature:**

- Coghill et al: Child and Adolescent Psychiatry, Oxford University Press, 2009
- Findling: Clinical Manual of Child and Adolescent Psychopharmacology, American psychiatric Publishing, 2008
- <http://iacapap.org/iacapap-textbook-of-child-and-adolescent-mental-health>
- Kiragasur RM, Kommu JV, CN Kumar, Shetty VB, Parthasarathy R, Math SB. Child and Adolescent Mental Health: A Manual for Medical officers. National Institute of Mental Health and Neuro Sciences. Bengaluru: NIMHANS Publication no. 176; 2020 (ISBN: 978-81-945815-8-1).
- Dean Elbe, Tyler R. Black, Ian R. McGrane, Ric M. Procyshyn: Clinical Handbook of Psychotropic Drugs for Children and Adolescents, 4th edition (ISBN 9781616765507) c 2019 Hogrefe Publishing.
- D. Skuse, H. Bruce, L. Dowdney & D. Mrazek (Eds.): Child Psychology and Psychiatry: Frameworks for Practice, Chichester: Wiley-Blackwell, 2011. pp. 318, ISBN: 978-0-470-97382-0.

**Languages necessary to complete the course:**

English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 77

A	B	C	D	E	FX
72,73	11,69	6,49	2,6	3,9	2,6

**Lecturers:** doc. MUDr. Jana Trebatická, PhD., PhD. Zuzana Hradečná, MUDr. Zuzana Matzová, PhD.

**Last change:** 24.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.AÚ/L-S-VLa-127/19	<b>Course title:</b> Clinical Anatomy 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> -100% participation in practical exercises - pass 1 written test (at least 60%) - oral examination Test evaluation: A: 200 - 192, B: 191 – 184, C: 183 – 176, D: 175 – 168, E: 167 – 160, Fx: 159 – 0. Oral exam evaluation: A: excellent, B: very good, C: good, D: satisfactory, E: sufficiently, Fx: failed. Final mark of the semester is determined from the average of received scores.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - Knowledge synthesis of systematic and topographical anatomy and their clinical application. <b>Skills:</b> - Analysis of the achieved knowledge from the morphological and clinical point of view. - Clinical application of the gained theoretical information. - Handling morphological basis of diagnostic and therapeutic procedures. - Application of diagnostic and therapeutic procedures on flexible cadavers. - To be familiar with the radio-diagnostic correlation. - Handling interdisciplinary procedures within overlapping morphological and clinical knowledge.	
<b>Class syllabus:</b> <b>Lectures/seminars:</b> - Clinical anatomy of the musculoskeletal system (bones, joints, muscles). - Clinical anatomy of the digestive system. - Clinical anatomy of the respiratory system. - Clinical anatomy of the urinary system. - Clinical anatomy of the female and male reproductive system. - Application of diagnostic and therapeutic procedures to flexible cadavers. - Mastering radio diagnostic correlation.	

- Mastering interdisciplinary procedures within the framework of the interweaving of morphological and clinical knowledge.

**Recommended literature:**

- DALLEY, A. F., AGUR, A. M. R. Moore's Clinically Oriented Anatomy. 9th edition. Philadelphia: Wolters Kluwer, 2023, 1160p. ISBN 9781975209544
- HANSEN, J.T. Netter's Clinical Anatomy. 4th ed. Philadelphia: Elsevier/Saunders, 2019. 608 s. ISBN 978-0-323-53188-7
- LOUKAS, M., BENNINGER, B. and TUBBS, R.S. Gray's Clinical Photographic Dissector of the Human Body. 2nd ed. Philadelphia: Elsevier, 2018. 480 p. ISBN 978-0-323-54417-7.

**Languages necessary to complete the course:**

English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 99

A	B	C	D	E	FX
43,43	41,41	12,12	1,01	2,02	0,0

**Lecturers:** MUDr. Andrej Mifkovič, PhD., doc. MUDr. Zora Haviarová, PhD.

**Last change:** 24.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.AÚ/L-S-VLa-128/19	<b>Course title:</b> Clinical Anatomy 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.AÚ/L-S-VLa-127/19 - Clinical Anatomy 1	
<b>Course requirements:</b> -100% participation in practical exercises - pass 1 written test (at least 60%) - oral examination Test evaluation: A: 200 - 192, B: 191 – 184, C: 183 – 176, D: 175 – 168, E: 167 – 160, Fx: 159 – 0. Oral exam evaluation: A: excellent, B: very good, C: good, D: satisfactory, E: sufficiently, Fx: failed. Final mark of the semester is determined from the average of received scores.	
<b>Learning outcomes:</b> Knowledge: - Knowledge synthesis of systematic and topographical anatomy and their clinical application. Skills: - Analysis of the achieved knowledge from the morphological and clinical point of view. - Clinical application of the gained theoretical information. - Handling morphological basis of diagnostic and therapeutic procedures. - Application of diagnostic and therapeutic procedures on flexible cadavers. - To be familiar with the radio-diagnostic correlation. - Handling interdisciplinary procedures within overlapping morphological and clinical knowledge.	
<b>Class syllabus:</b> Lectures/seminars: - Clinical anatomy of the cardiovascular system. - Clinical anatomy of the lymphatic system. - Clinical anatomy of endocrine glands. - Clinical anatomy of the nervous system. - Clinical anatomy of sense organs. - Clinical anatomy of the skin. - Application of diagnostic and therapeutic procedures to flexible cadavers. - Mastering radio-diagnostic correlation.	

- Mastering interdisciplinary procedures within the framework of the interweaving of morphological and clinical knowledge.

**Recommended literature:**

- DALLEY, A. F., AGUR, A. M. R. Moore's Clinically Oriented Anatomy. 9th edition. Philadelphia: Wolters Kluwer, 2023, 1160p. ISBN 9781975209544
- HANSEN, J.T. Netter's Clinical Anatomy. 4th ed. Philadelphia: Elsevier/Saunders, 2019. 608 s. ISBN 978-0-323-53188-7
- LOUKAS, M., BENNINGER, B. and TUBBS, R.S. Gray's Clinical Photographic Dissector of the Human Body. 2nd ed. Philadelphia: Elsevier, 2018. 480 p. ISBN 978-0-323-54417-7.

**Languages necessary to complete the course:**

English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 65

A	B	C	D	E	FX
29,23	32,31	16,92	10,77	10,77	0,0

**Lecturers:** MUDr. Andrej Mifkovič, PhD., doc. MUDr. Zora Haviarová, PhD.

**Last change:** 24.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLChB/L-S-VLa-036/19	<b>Course title:</b> Clinical Biochemistry
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPF/L-S-VLa-057/18 - Pathological Physiology 2 and LF.IK5/L-S-VLa-029/18 - Internal Medicine 1	
<b>Course requirements:</b> Final exam: The test consists of 40 questions. The minimum number of points for passing the test is more than 80%. Test evaluation: A: 97 - 100 %, B: 93 – 96 %, C: 89 – 92 %, D: 85 – 88 %, E: 81 – 84 %, Fx: 80 % - 0%.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - Basics of pathobiochemistry and clinical biochemistry of analytes in blood and urine - Knowledge of the possibility of using the results of laboratory tests in the diagnosis of diseases of individual organ systems <b>Skills:</b> - Understanding the principles of clinical-biochemical diagnostics - Basics of indication and interpretation of laboratory test results - Utilization of laboratory parameters in differential diagnosis of diseases	
<b>Class syllabus:</b> General clinical biochemistry, phases of laboratory examination, evaluation of results, reference values. Laboratory tests of plasma proteins, hyper- and hypoproteinemia. Clinical enzymology. Clinically important enzymes. Clinical biochemistry of lipid metabolism and hyperlipoproteinemias. The importance of laboratory tests in the diagnosis and monitoring of patients with diabetes mellitus. Importance of laboratory tests in gastroenterology. The importance of laboratory tests in diseases of the hepatobiliary system. Laboratory examinations in nephrology. Urine tests and kidney function tests. Oncomarkers and diagnostics and monitoring of patients with oncological diseases. Laboratory tests in cardiology, cardiomarkers, diagnosis of acute myocardial infarction. Disorders of acid-base balance and their diagnosis. Laboratory tests for diseases of the thyroid gland and adrenal cortex.	
<b>Recommended literature:</b>	

W.J.Marshall, M.Lapsley, A.P.Day, R.M.Ayling: Clinical Biochemistry, Churchill Livingstone-Elsevier 2014, 932 s.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 610

A	B	C	D	E	FX
9,18	18,36	26,89	21,15	18,2	6,23

**Lecturers:** prof. MUDr. Ladislav Turecký, CSc., doc. RNDr. Eva Uhlíková, CSc., RNDr. Milada Laššánová, CSc.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLBG/L-S-VLa-132-4/19	<b>Course title:</b> Clinical Genetics and Molecular Biology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the lectures Final exam: test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%.	
<b>Learning outcomes:</b> Knowledge: - Introduction and tools of human molecular genetics- Organization of the human genome, Methods of nucleic acid analysis, The polymerase chain reaction (PCR), Advanced techniques in molecular genetics, Real-time PCR, DNA sequence analysis - Basics of clinical genetics - Introduction to clinical genetics, Classification of genetic diseases, Chromosomal syndromes – cytogenetic and molecular diagnosis - Human reproductive genetics - Sterility and infertility, Prenatal genetic diagnosis, Molecular methods of invasive and non-invasive prenatal diagnosis, Molecular techniques used for detection of aneuploidies, Analysis of cell free foetal DNA - Biochemical genetics: inborn errors of metabolism - Diagnostic of inborn errors of metabolism, Mitochondrial diseases, Lysosomal storage disorders, Peroxisomal disorders, Disorders of amino acid, Organic acidurias, Disorders of carbohydrate metabolism, Disorders of metaloproteins, Disorders of bilirubine metabolism, Disorders of cholesterol metabolism - Rare genetic disorders - Endocrinological genetic disorders, Genetic disorders with neurological manifestation, muscular dystrophies, Cystic fibrosis, - Genetic disorders and predispositions - Familial hypercholesterolemia, Diabetes mellitus, Haemophilias - Epigenetics - Novel therapies for rare disorders - Gene therapy - Pharmacogenetics and personalized medicine	
<b>Class syllabus:</b> Definition of the subject clinical genetics and its role in clinical practice. Tasks of clinical genetics departments and their position in the field of the medicine. The use of DNA analysis methods in	

the diagnostics of hereditary conditions and diseases. The use of cytogenetic diagnostic methods in general genetic practice and in reproductive failures. Most common chromosomal aberrations. General information of the most frequent single gene diseases. Diagnostics of the inborn errors of metabolism. Disorders with multifactorial type of inheritance. Congenital malformations. Prenatal genetic diagnostics - algorithms, methods, prognostic use. Introduction to the oncogenetics.

**Recommended literature:**

Repiská Vanda, Böhmer Daniel, Danišovič Ľuboš, Klimová Daniela: Medical biology and molecular genetics. Bratislava: Comenius University Bratislava, 2020. - 306 p. ISBN 978-80-223-4984-0

Nussbaum, R.L., McInnes, R.R., Willard, H.F.: Thompson & Thompson Genetics in medicine. 8th edition. Elsevier, Philadelphia. 2016; 546 p.

Alberts, B., et al. Molecular biology of cell. 6th edition. Garland Science, New York. 2015; 1464 p.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 48

A	B	C	D	E	FX
97,92	2,08	0,0	0,0	0,0	0,0

**Lecturers:** doc. MUDr. Daniel Böhmer, PhD., prof. RNDr. Vanda Repiská, PhD., MPH

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLBG/L-S-VLa-132-5/19	<b>Course title:</b> Clinical Genetics and Molecular Biology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the lectures Final exam: test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%.	
<b>Learning outcomes:</b> Knowledge: - Introduction and tools of human molecular genetics- Organization of the human genome, Methods of nucleic acid analysis, The polymerase chain reaction (PCR), Advanced techniques in molecular genetics, Real-time PCR, DNA sequence analysis - Basics of clinical genetics - Introduction to clinical genetics, Classification of genetic diseases, Chromosomal syndromes – cytogenetic and molecular diagnosis - Human reproductive genetics - Sterility and infertility, Prenatal genetic diagnosis, Molecular methods of invasive and non-invasive prenatal diagnosis, Molecular techniques used for detection of aneuploidies, Analysis of cell free foetal DNA - Biochemical genetics: inborn errors of metabolism - Diagnostic of inborn errors of metabolism, Mitochondrial diseases, Lysosomal storage disorders, Peroxisomal disorders, Disorders of amino acid, Organic acidurias, Disorders of carbohydrate metabolism, Disorders of metalloproteins, Disorders of bilirubine metabolism, Disorders of cholesterol metabolism - Rare genetic disorders - Endocrinological genetic disorders, Genetic disorders with neurological manifestation, muscular dystrophies, Cystic fibrosis, - Genetic disorders and predispositions - Familial hypercholesterolemia, Diabetes mellitus, Haemophilias - Epigenetics - Novel therapies for rare disorders - Gene therapy - Pharmacogenetics and personalized medicine	
<b>Class syllabus:</b> Definition of the subject clinical genetics and its role in clinical practice. Tasks of clinical genetics departments and their position in the field of the medicine. The use of DNA analysis methods in	

the diagnostics of hereditary conditions and diseases. The use of cytogenetic diagnostic methods in general genetic practice and in reproductive failures. Most common chromosomal aberrations. General information of the most frequent single gene diseases. Diagnostics of the inborn errors of metabolism. Disorders with multifactorial type of inheritance. Congenital malformations. Prenatal genetic diagnostics - algorithms, methods, prognostic use. Introduction to the oncogenetics.

**Recommended literature:**

Repiská Vanda, Böhmer Daniel, Danišovič Ľuboš, Klimová Daniela: Medical biology and molecular genetics. Bratislava: Comenius University Bratislava, 2020. - 306 p. ISBN 978-80-223-4984-0

Nussbaum, R.L., McInnes, R.R., Willard, H.F.: Thompson & Thompson Genetics in medicine. 8th edition. Elsevier, Philadelphia. 2016; 546 p.

Alberts, B., et al. Molecular biology of cell. 6th edition. Garland Science, New York. 2015; 1464 p.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 34

A	B	C	D	E	FX
97,06	2,94	0,0	0,0	0,0	0,0

**Lecturers:** doc. MUDr. Daniel Böhmer, PhD., prof. RNDr. Vanda Repiská, PhD., MPH

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IÚ/L-S-VLa-133-4/22	<b>Course title:</b> Clinical Immunology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IÚ/L-S-VLa-092/22 - Immunology	
<b>Course requirements:</b> Final exam: Written test: Evaluation of the test: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less Oral exam: Answer to 3 questions.	
<b>Learning outcomes:</b> <b>Knowledge:</b> 1. Students will master the role of psycho-neuro-endocrine-immune cooperation in the pathogenesis of diseases. 2. They have knowledge about the dual role of inflammation – its importance in immunity and defence mechanisms, but also as a key mechanism that play a great role in the development of diseases, especially in the development of oncological, cardiovascular, infectious, neurodegenerative, and other diseases. 3. They expand their knowledge on clinical immunology in the areas of allergies, autoimmunity, tissue and tissue and organ transplants, anti-tumor immunity, and immunodeficiencies, infectious and non-infectious inflammation (SIRS, sepsis, MODS, septic shock), immunoprevention and immunotherapy. 4. They gain knowledge about SARS-COV-2 infection, its origin, clinical manifestations, diagnostics, Covid 19 therapy and long-lasting post-covid syndrome. <b>Skills:</b> 1. Students recognize the clinical signs of atopy and anaphylaxis. They recognize clinical manifestations of atopy, anaphylactic, anaphylactoid shock and serum sickness, and their therapy. They can use EpiPen. 2. They can diagnose acute and chronic allergies. 3. They recognize clinical symptoms of congenital and acquired immunodeficient conditions including HIV. They know the diagnosis, and treatment of these diseases.	
<b>Class syllabus:</b> Classification of immunopathological reactions, their mechanisms, clinical manifestations, and therapy. Type I hypersensitivity reaction. Atopy and anaphylaxis. Anaphylactic shock,	

manifestations, diagnosis, therapy. Differential diagnosis from anaphylactoid shock (pseudo-allergies). Hypersensitivity reactions type II. drug reactions, post-transfusion reactions, neonatal hemolytic disease. Hypersensitivity reactions type III. Arthus reaction, serum disease (manifestations, diagnosis, treatment), systemic immune complex diseases. Hypersensitivity reactions type IV. tuberculin reaction, granulomas, allergies. Type V hypersensitivity reactions - the role of autoantibodies (M. Basedow-Graves, Hashimoto's disease, myasthenia gravis), their mechanisms, clinical manifestations, and diagnostics. Physiological and pathological autoimmunity. Immune tolerance and its failure, APS I - IV. Pathogenetic mechanisms of autoimmune processes and their genetic and hormonal predisposition. Immunopathogenesis and immunotherapy of selected autoimmune diseases (type 1 diabetes mellitus, Crohn's disease, colitis ulcerosa, multiple sclerosis, neuromyelitis optica). Immunopathogenesis of some selected autoimmune diseases (myasthenia gravis, psoriasis vulgaris, rheumatoid arthritis, systemic lupus erythematosus). Systemic inflammation, sepsis, MODS, and septic shock. The role of Th1, Th2 immunity, and pro-and anti-inflammatory cytokines and counter-regulatory mechanisms. SIRS, CARS, MARS. New sepsis definition „Sepsis 3“. Diagnosis and differential diagnosis of infectious and non-infectious systemic inflammation - CRP, SAA, procalcitonin, neopterin, TREM-1, HMGB1, and Neu / Ly ratio. Systemic inflammatory index. Transplantation, nomenclature, transplant reactions of HvG and GvH. Exceptions to rejections. Bone marrow, kidney and other organ transplantations. Immunoprevention, immune-prophylaxis. Immuno-stimulation and immunosuppression. Types of vaccines and vaccination calendar in Slovakia. Intravenous immunoglobulins. Monoclonal antibodies and cytokines in therapy. Biological treatment, gene therapy, and peptide therapy. Fusion proteins and small molecules. Congenital disorders of innate immunity. Disorders of adaptive antibody immunity, cellular immunity, and combined immunodeficiencies. General manifestations, occurrence, division. AIDS. Structure of HIV, types of HIV. Interactions of HIV with immune system cells. Clinical stages of AIDS. AIDS prevention and immunological diagnosis. The current approach to therapy. SARS COV-2 infection, the role of the immunity and inflammation in clinical manifestation of disease. The role of vasculitis and thrombosis. Long-term post-covid syndrome, vaccination, its side effects, and therapy. Tumors, inflammation, immunity, and HLA-G as an immune checkpoint molecule. Etiology of tumor process; translocations in the malignant process. Immunoediting. The cause of malignant cell leakage from effector functions of the immune system. The role of inflammation in carcinogenesis. Metastatic process. Immunodiagnostics and immunotherapy of tumor disease. Immunity during pregnancy. Immunological paradox and foetal tolerance. Psycho-neuroendocrine-immune system - a holistic view on the functioning of immunity. The role of inflammation in the development of neurodegenerative diseases. Alzheimer disease. The role of the mother's immune system in foetal tolerance. The role of HLA-G. Development of foetal and new-born immunity.

**Recommended literature:**

Obligatory textbooks:

1. Buc M. Basic and Clinical Immunology. 5th ed. Bratislava: Comenius University 2020, 554 pp.
2. Video-presentations of lecturers.

Recommended textbooks

1. Abbas AK, Lichtman, AH, Pillai S: Cellular and Molecular Immunology. 9th ed. New York: Elsevier 2022, 565 pp. (internet edition available too)
2. Chapel H, Haeney M, Misbah S, Snowden N.: Essentials of Clinical Immunology. Willey Oxford: Blackwell 2014, 365 pp.

**Languages necessary to complete the course:**

english

<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 5					
A	B	C	D	E	FX
0,0	0,0	0,0	40,0	60,0	0,0
<b>Lecturers:</b> prof. MUDr. Milan Buc, DrSc., doc. MUDr. Mária Bucová, CSc., doc. RNDr. Vladimíra Ďurmanová, PhD., doc. Mgr. Ivana Shawkatová, PhD., MUDr. Monika Homolová, PhD., MUDr. Juraj Javor, PhD., MUDr. Zuzana Párnická, PhD., MUDr. Magda Suchánková, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IÚ/L-S-VLa-133-5/22	<b>Course title:</b> Clinical Immunology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Final exam: Written test: Evaluation of the test: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less Oral exam: Answer to 3 questions.	
<b>Learning outcomes:</b> Knowledge: 1. Students will master the role of psycho-neuro-endocrine-immune cooperation in the pathogenesis of diseases. 2. They have knowledge about the dual role of inflammation – its importance in immunity and defence mechanisms, but also as a key mechanism that play a great role in the development of diseases, especially in the development of oncological, cardiovascular, infectious, neurodegenerative, and other diseases. 3. They expand their knowledge on clinical immunology in the areas of allergies, autoimmunity, tissue and tissue and organ transplants, anti-tumor immunity, and immunodeficiencies, infectious and non-infectious inflammation (SIRS, sepsis, MODS, septic shock), immunoprevention and immunotherapy. 4. They gain knowledge about SARS-COV-2 infection, its origin, clinical manifestations, diagnostics, Covid 19 therapy and long-lasting post-covid syndrome. Skills: 1. Students recognize the clinical signs of atopy and anaphylaxis. They recognize clinical manifestations of atopy, anaphylactic, anaphylactoid shock and serum sickness, and their therapy. They can use EpiPen. 2. They can diagnose acute and chronic allergies. 3. They recognize clinical symptoms of congenital and acquired immunodeficient conditions including HIV. They know the diagnosis, and treatment of these diseases.	
<b>Class syllabus:</b> Classification of immunopathological reactions, their mechanisms, clinical manifestations, and therapy. Type I hypersensitivity reaction. Atopy and anaphylaxis. Anaphylactic shock,	

manifestations, diagnosis, therapy. Differential diagnosis from anaphylactoid shock (pseudo-allergies). Hypersensitivity reactions type II. drug reactions, post-transfusion reactions, neonatal hemolytic disease. Hypersensitivity reactions type III. Arthus reaction, serum disease (manifestations, diagnosis, treatment), systemic immune complex diseases. Hypersensitivity reactions type IV. tuberculin reaction, granulomas, allergies. Type V hypersensitivity reactions - the role of autoantibodies (M. Basedow-Graves, Hashimoto's disease, myasthenia gravis), their mechanisms, clinical manifestations, and diagnostics. Physiological and pathological autoimmunity. Immune tolerance and its failure, APS I - IV. Pathogenetic mechanisms of autoimmune processes and their genetic and hormonal predisposition. Immunopathogenesis and immunotherapy of selected autoimmune diseases (type 1 diabetes mellitus, Crohn's disease, colitis ulcerosa, multiple sclerosis, neuromyelitis optica). Immunopathogenesis of some selected autoimmune diseases (myasthenia gravis, psoriasis vulgaris, rheumatoid arthritis, systemic lupus erythematosus). Systemic inflammation, sepsis, MODS, and septic shock. The role of Th1, Th2 immunity, and pro-and anti-inflammatory cytokines and counter-regulatory mechanisms. SIRS, CARS, MARS. New sepsis definition „Sepsis 3“. Diagnosis and differential diagnosis of infectious and non-infectious systemic inflammation - CRP, SAA, procalcitonin, neopterin, TREM-1, HMGB1, and Neu / Ly ratio. Systemic inflammatory index. Transplantation, nomenclature, transplant reactions of HvG and GvH. Exceptions to rejections. Bone marrow, kidney and other organ transplantations. Immunoprevention, immune-prophylaxis. Immuno-stimulation and immunosuppression. Types of vaccines and vaccination calendar in Slovakia. Intravenous immunoglobulins. Monoclonal antibodies and cytokines in therapy. Biological treatment, gene therapy, and peptide therapy. Fusion proteins and small molecules. Congenital disorders of innate immunity. Disorders of adaptive antibody immunity, cellular immunity, and combined immunodeficiencies. General manifestations, occurrence, division. AIDS. Structure of HIV, types of HIV. Interactions of HIV with immune system cells. Clinical stages of AIDS. AIDS prevention and immunological diagnosis. The current approach to therapy. SARS COV-2 infection, the role of the immunity and inflammation in clinical manifestation of disease. The role of vasculitis and thrombosis. Long-term post-covid syndrome, vaccination, its side effects, and therapy. Tumors, inflammation, immunity, and HLA-G as an immune checkpoint molecule. Etiology of tumor process; translocations in the malignant process. Immunoediting. The cause of malignant cell leakage from effector functions of the immune system. The role of inflammation in carcinogenesis. Metastatic process. Immunodiagnostics and immunotherapy of tumor disease. Immunity during pregnancy. Immunological paradox and foetal tolerance. Psycho-neuroendocrine-immune system - a holistic view on the functioning of immunity. The role of inflammation in the development of neurodegenerative diseases. Alzheimer disease. The role of the mother's immune system in foetal tolerance. The role of HLA-G. Development of foetal and new-born immunity.

**Recommended literature:**

Obligatory textbooks:

1. Buc M. Basic and Clinical Immunology. 5th ed. Bratislava: Comenius University 2020, 554 pp.
2. Video-presentations of lecturers.

Recommended textbooks

1. Abbas AK, Lichtman, AH, Pillai S: Cellular and Molecular Immunology. 9th ed. New York: Elsevier 2022, 565 pp. (internet edition available too)
2. Chapel H, Haeney M, Misbah S, Snowden N.: Essentials of Clinical Immunology. Willey Oxford: Blackwell 2014, 365 pp.

**Languages necessary to complete the course:**

english

<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 0					
A	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> prof. MUDr. Milan Buc, DrSc., doc. MUDr. Mária Bucová, CSc., doc. RNDr. Vladimíra Ďurmanová, PhD., doc. Mgr. Ivana Shawkatová, PhD., MUDr. Monika Homolová, PhD., MUDr. Juraj Javor, PhD., MUDr. Zuzana Párnická, PhD., MUDr. Magda Suchánková, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.MÚ/L-S-VLa-134-4/19	<b>Course title:</b> Clinical Microbiology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Final exam: - defending the seminar work (in minimal extent of 5 pages) - written test (minimum 60% of correct answers) - theoretical exam: 2 questions Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Explanation of pathogenesis of microbial diseases according to the affected organs and organ systems <b>Skills:</b> Interpretation of microbiologic diagnostics results and their implementation in the therapy	
<b>Class syllabus:</b> Principles of rational antimicrobial therapy in outpatients and in hospitalised patients. Multiresistance of bacteria, risks and possible solutions. Diagnostics and therapy of life-threatening infections such as pneumonia, sepsis, endocarditis, meningitis, urogenital infections. Infectious complications in immunocompromised patient. Current therapy options of mycoses. Principles of microbiological diagnostic results interpretation.	
<b>Recommended literature:</b> Struthers, J.K.: Clinical Microbiology. Taylor & Francis, 2017, 264 pp.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 13					
A	B	C	D	E	FX
61,54	30,77	7,69	0,0	0,0	0,0
<b>Lecturers:</b> doc. MUDr. Adriana Liptáková, PhD., MPH, doc. RNDr. Nasir Ahmad Jalili, CSc., MPH, doc. RNDr. Livia Slobodníková, CSc., MUDr. Ján Koreň, PhD., Mgr. Marek Straka, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.MÚ/L-S-VLa-134-5/19	<b>Course title:</b> Clinical Microbiology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Final exam: - defending the seminar work (in minimal extent of 5 pages) - written test (minimum 60% of correct answers) - theoretical exam: 2 questions Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Explanation of pathogenesis of microbial diseases according to the affected organs and organ systems <b>Skills:</b> Interpretation of microbiologic diagnostics results and their implementation in the therapy	
<b>Class syllabus:</b> Principles of rational antimicrobial therapy in outpatients and in hospitalised patients. Multiresistance of bacteria, risks and possible solutions. Diagnostics and therapy of life-threatening infections such as pneumonia, sepsis, endocarditis, meningitis, urogenital infections. Infectious complications in immunocompromised patient. Current therapy options of mycoses. Principles of microbiological diagnostic results interpretation.	
<b>Recommended literature:</b> Struthers, J.K.: Clinical Microbiology. Taylor & Francis, 2017, 264 pp.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 5					
A	B	C	D	E	FX
40,0	40,0	20,0	0,0	0,0	0,0
<b>Lecturers:</b> doc. MUDr. Adriana Liptáková, PhD., MPH, doc. RNDr. Nasir Ahmad Jalili, CSc., MPH, doc. RNDr. Livia Slobodníková, CSc., MUDr. Ján Koreň, PhD., Mgr. Marek Straka, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚPA/L-S-VLa-135-4/19	<b>Course title:</b> Clinical Pathology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPA/L-S-VLa-055/18 - Pathological Anatomy 2	
<b>Course requirements:</b> - 100% attendance at the lectures - oral examination – 1 question	
<b>Learning outcomes:</b> Knowledge and skills: Correlation of morphological changes with clinical findings in diseases of the hemopoietic system, female genital system and neuromuscular diseases. Targeted diagnostics of hemopoietic and testicular tumors, colorectal carcinoma, with the aim of personalized therapeutic outcomes. Therapeutic possibilities of hyperbaric environment. Pathology of gestational trophoblastic disease, diabetes mellitus, COVID-19 and their clinical correlation. Application of frozen section histology.	
<b>Class syllabus:</b> Introduction to clinical pathology. Application of immunohistochemistry in tumor diagnostics. Pathology and clinical manifestation of COVID-19. Gestational trophoblastic disease – multidisciplinary cooperation in the diagnostics. Hyperbaric medicine. Translational research – its significance in search for new therapeutic targets. Classification and significance of complex diagnostics of lymphoproliferative diseases. Gynecologic cytology and its significance in prevention of uterine cervix carcinoma. Pathology of diabetes mellitus. Genetics of colorectal carcinoma. Practical use of frozen section histology in clinical praxis.	
<b>Recommended literature:</b> Recommended literature: the lectures	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 63					
A	B	C	D	E	FX
74,6	9,52	11,11	4,76	0,0	0,0
<b>Lecturers:</b> prof. MUDr. Ľudovít Danihel, CSc., prof. MUDr. Pavel Babál, CSc., doc. MUDr. Zuzana Čierna, PhD., doc. MUDr. Pavol Janega, PhD., MUDr. Andrea Janegová, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚPA/L-S-VLa-135-5/19	<b>Course title:</b> Clinical Pathology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the lectures - oral examination – 1 question	
<b>Learning outcomes:</b> Knowledge and skills: Correlation of morphological changes with clinical findings in diseases of the hemopoietic system, female genital system and neuromuscular diseases. Targeted diagnostics of hemopoietic and testicular tumors, colorectal carcinoma, with the aim of personalized therapeutic outcomes. Therapeutic possibilities of hyperbaric environment. Pathology of gestational trophoblastic disease, diabetes mellitus, COVID-19 and their clinical correlation. Application of frozen section histology.	
<b>Class syllabus:</b> Introduction to clinical pathology. Application of immunohistochemistry in tumor diagnostics. Pathology and clinical manifestation of COVID-19. Gestational trophoblastic disease – multidisciplinary cooperation in the diagnostics. Hyperbaric medicine. Translational research – its significance in search for new therapeutic targets. Classification and significance of complex diagnostics of lymphoproliferative diseases. Gynecologic cytology and its significance in prevention of uterine cervix carcinoma. Pathology of diabetes mellitus. Genetics of colorectal carcinoma. Practical use of frozen section histology in clinical praxis.	
<b>Recommended literature:</b> Recommended literature: the lectures	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 11					
A	B	C	D	E	FX
54,55	27,27	9,09	9,09	0,0	0,0
<b>Lecturers:</b> prof. MUDr. Ľudovít Danihel, CSc., prof. MUDr. Pavel Babál, CSc., doc. MUDr. Zuzana Čierna, PhD., doc. MUDr. Pavol Janega, PhD., MUDr. Andrea Janegová, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚFKF/L-S-VLa-131-4/20	<b>Course title:</b> Clinical Pharmacology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚFKF/L-S-VLa-012/19 - Pharmacology 2	
<b>Course requirements:</b> - 100% attendance on the lectures <b>Final exam:</b> - written part – work up of pharmacotherapeutic plan - theoretical part – 2 questions: 1st question from general clinical pharmacology; 2nd question – discussion and justification of the proposed pharmacotherapeutic plan The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - acquisition of knowledge from medical pharmacology and therapeutics - acquisition of knowledge necessary for pharmacological decision-making in selected diseases <b>Skills:</b> - application of knowledge in an appropriate drug selection - assessment of the risk-benefit ratio of drugs in specific situations of selected diseases in an individual patient	
<b>Class syllabus:</b> Strategy and methods in pharmacotherapy. Drug evaluation. GLP, GCP. Medication adherence. Drug risk and its prevention. Pharmacovigilance and monitoring of adverse drug reactions. Therapeutic drug monitoring. Characteristics of pharmacotherapy during pregnancy and lactation. Characteristics of pharmacotherapy in children. Characteristics of pharmacotherapy in elderly. Clinical analysis of pharmacotherapy in selected frequently occurring diseases. Creating different pharmacotherapeutic plans and drug selection.	
<b>Recommended literature:</b> Brown, M., Sharma, P., Mir, F., Bennett, P.N. Clinical Pharmacology 12th ed. Edinburgh: Elsevier Ltd., 2019, 720 p. Waller, D.G., Sampson, A.P. Medical Pharmacology and Therapeutics. 5th ed. Edinburgh: Elsevier Ltd., 2018, 729 p.	
<b>Languages necessary to complete the course:</b>	

english					
<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 50					
A	B	C	D	E	FX
90,0	10,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> prof. MUDr. Martin Wawruch, PhD., MUDr. Jana Tisoňová, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚFKF/L-S-VLa-131-5/20	<b>Course title:</b> Clinical Pharmacology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚFKF/L-S-VLa-012/19 - Pharmacology 2	
<b>Course requirements:</b> - 100% attendance on the lectures Final exam: - written part – work up of pharmacotherapeutic plan - theoretical part – 2 questions: 1st question from general clinical pharmacology; 2nd question – discussion and justification of the proposed pharmacotherapeutic plan The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: - acquisition of knowledge from medical pharmacology and therapeutics - acquisition of knowledge necessary for pharmacological decision-making in selected diseases Skills: - application of knowledge in an appropriate drug selection - assessment of the risk-benefit ratio of drugs in specific situations of selected diseases in an individual patient	
<b>Class syllabus:</b> Strategy and methods in pharmacotherapy. Drug evaluation. GLP, GCP. Medication adherence. Drug risk and its prevention. Pharmacovigilance and monitoring of adverse drug reactions. Therapeutic drug monitoring. Characteristics of pharmacotherapy during pregnancy and lactation. Characteristics of pharmacotherapy in children. Characteristics of pharmacotherapy in elderly. Clinical analysis of pharmacotherapy in selected frequently occurring diseases. Creating different pharmacotherapeutic plans and drug selection.	
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<b>Languages necessary to complete the course:</b>	

english					
<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 55					
A	B	C	D	E	FX
87,27	10,91	1,82	0,0	0,0	0,0
<b>Lecturers:</b> prof. MUDr. Martin Wawruch, PhD., MUDr. Jana Tisoňová, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KNM/L-S-VLa-136-4/19	<b>Course title:</b> Clinical applications of diagnostic and therapeutic methods of nuclear medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPA/L-S-VLa-055/18 - Pathological Anatomy 2 and LF.ÚPF/L-S-VLa-057/18 - Pathological Physiology 2	
<b>Course requirements:</b> - 100% attendance at the practicals - written test (minimum 60% of correct answers) Final exam: - theoretical exam: 3 questions Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> Knowledge: - Deepening of knowledge about clinical applications of diagnostic and therapeutic methods of nuclear medicine, about their position in diagnostic work-up and therapeutic management of selected oncological and neo-oncological diseases - Clinical applications of direct link between diagnostic examinations of nuclear medicine and subsequent treatment, i.e. of the teragnostic principles of nuclear medicine - Acquirement of the theoretical bases of scientific work in the domain of nuclear medicine and understanding the principles of their practical applications Skills: - Capacity of basic image processing and interpretation of findings of diagnostic methods of nuclear medicine - Basics of radionuclide treatment	
<b>Class syllabus:</b> - Clinical applications of diagnostic and therapeutic methods in selected oncological (breast cancer, prostate cancer, colorectal cancer, neuroendocrine neoplasms and multiple endocrine neoplasia syndromes, multiple myeloma and malignant lymphoma, metastatic malignancy of unknown origin, characterization of nodular foci in the liver)	

and non-oncological (thyroid and parathyroid diseases, localization of infectious and inflammatory lesions in fever / inflammatory syndrome of unknown origin) diseases  
- Fundamentals of scientific work in nuclear medicine, types of clinical studies in nuclear medicine and principles of clinical studies with a diagnostic agent

**Recommended literature:**

Biersack HJ et al., Clinical Nuclear Medicine, 2007, ISBN 978-3-540-28025-5  
Current guidelines of European Association of Nuclear Medicine (<https://www.eanm.org/publications/guidelines/>)  
Current guidelines of European Medicines Agency on clinical trials in evaluation of diagnostic agents (Doc. Ref. CPMP/EWP/1119/98/Rev 1)  
European Nuclear Medicine Guide, The 2020 Edition, <https://www.eanm.org/publicpress/european-nuclear-medicine-guide/>  
Špánik S. et al. Introduction to Clinical Oncology, Chapter: Balogova S. Nuclear Medicine in Oncology p.82-112, 2021, ISBN 978-80-2234988-B

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 12

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Soňa Balogová, PhD.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KNM/L-S-VLa-136-5/19	<b>Course title:</b> Clinical applications of diagnostic and therapeutic methods of nuclear medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.RK/L-S-VLa-095/22 - Radiology and Nuclear Medicine	
<b>Course requirements:</b> - 100% attendance at the practicals - written test (minimum 60% of correct answers) Final exam: - theoretical exam: 3 questions Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> Knowledge: - Deepening of knowledge about clinical applications of diagnostic and therapeutic methods of nuclear medicine, about their position in diagnostic work-up and therapeutic management of selected oncological and neo-oncological diseases - Clinical applications of direct link between diagnostic examinations of nuclear medicine and subsequent treatment, i.e. of the teragnostic principles of nuclear medicine - Acquirement of the theoretical bases of scientific work in the domain of nuclear medicine and understanding the principles of their practical applications Skills: - Capacity of basic image processing and interpretation of findings of diagnostic methods of nuclear medicine - Basics of radionuclide treatment	
<b>Class syllabus:</b> - Clinical applications of diagnostic and therapeutic methods in selected oncological (breast cancer, prostate cancer, colorectal cancer, neuroendocrine neoplasms and multiple endocrine neoplasia syndromes, multiple myeloma and malignant lymphoma, metastatic malignancy of unknown origin, characterization of nodular foci in the liver) and non-oncological (thyroid and parathyroid diseases, localization of infectious and inflammatory lesions in fever / inflammatory syndrome of unknown origin) diseases	

- Fundamentals of scientific work in nuclear medicine, types of clinical studies in nuclear medicine and principles of clinical studies with a diagnostic agent

**Recommended literature:**

Biersack HJ et al., Clinical Nuclear Medicine, 2007, ISBN 978-3-540-28025-5

Current guidelines of European Association of Nuclear Medicine (<https://www.eanm.org/publications/guidelines/>)

Current guidelines of European Medicines Agency on clinical trials in evaluation of diagnostic agents (Doc. Ref. CPMP/EWP/1119/98/Rev 1)

European Nuclear Medicine Guide, The 2020 Edition, <https://www.eanm.org/publicpress/european-nuclear-medicine-guide/>

Špánik S. et al. Introduction to Clinical Oncology, Chapter: Balogova S. Nuclear Medicine in Oncology p.82-112, 2021, ISBN 978-80-2234988-B

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Soňa Balogová, PhD.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚHE/L-S-VLa-130/22	<b>Course title:</b> Clinical embryology and reproductive medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Obligatory attendance at the lectures and a final multiple choice test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Gaining the recent knowledge about new trends in clinical embryology and reproductive medicine. The graduate of the course masters the anatomy and physiology of human reproduction, the causes and possibilities of diagnosis of the most common congenital malformations, masters at the theoretical level the causes and possibilities of diagnosis and treatment of infertility and selected laboratory methods of assisted reproduction. The aim of the course is also to gain a comprehensive view of the issue of human reproduction, and to point out the intersection between theoretical knowledge of embryology and experimental biology and clinical research in gynecology, obstetrics, urology and neonatology. The given subject would in a logical sequence connect knowledge from clinical embryology and assisted reproduction, from the field of female and male infertility, mechanisms of birth defects, their prenatal diagnosis and subsequent specialized neonatological care of the newborn.	
<b>Class syllabus:</b> The contents of the lectures can be divided into several areas: 1) Clinical embryology and laboratory part of assisted reproduction (assisted reproduction methods: spermology and ejaculate analysis, micromanipulation methods and intracytoplasmic sperm injection into the oocyte, in vitro cultivation of the early embryo and evaluation of its development, cryopreservation in reproductive medicine, preimplantation genetics), 2) Causes and treatment of female and male infertility, 3) A comprehensive view of the issue of congenital malformations (prenatal screening and diagnosis of congenital malformations, current possibilities of fetal surgery, teratology, causes of congenital malformations and prevention options), 4) Problems of preconception and prenatal preparation and childbirth, family planning, 5) Reproductive immunology and endocrinology.	

**Recommended literature:**

1. Coward K, Wells D. (Eds). Textbook of Clinical Embryology. Cambridge University Press. 2013. 392 pp. ISBN 978-0-521-16640-9.
2. Torchia MG, Persaud TVN. Concise Clinical Embryology. An Integrated, Case-Based Approach. Philadelphia: Elsevier, 2021. 118 pp. ISBN 978-0-323-69615-9.
3. Sadler TW. Langman's Medical Embryology. Fourteenth Edition. Philadelphia: Wolters Kluwer, 2019. 432 pp. ISBN 978-1-975114-84-8.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 22

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** prof. RNDr. Ivan Varga, PhD., prof. MUDr. Jozef Záhumenský, PhD.**Last change:** 30.11.2022**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚPF/L-S-VLa-138/19	<b>Course title:</b> Critical Appraisal and Academic Writing Skills
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the seminars (on-site) and lectures (online), - positive evaluation of an online oral presentation on the topic of a diploma thesis (only Introduction, Hypothesis/Aims, Methodology) - 1 written test (minimum 60% of correct answers). Test evaluation: A: 91 - 100%, B: 81 – 90%, C: 73 – 80%, D: 66 – 72%, E: 60 – 65%, Fx: 59 - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Upon successful completion of the compulsory optional course, the student: <ul style="list-style-type: none"> <li>- is able to distinguish the type of scientific articles and scientific journals, with a focus on the evaluating indicators for the journal quality,</li> <li>- is familiar with bibliometric and citation databases,</li> <li>- learns the basics of critical academic thinking and professional communication, including communication with the diploma thesis supervisor,</li> <li>- learns the principles of presentation (oral/poster), professional speaking and discussion at scientific events/thesis defence,</li> <li>- learns the possibilities and style of active participation in scientific conferences, congresses,</li> <li>-can identify major problem areas: vocabulary, structure, logical factors-content in papers/ thesis.</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- The student can better assess the quality of scientific papers/ diploma theses,</li> <li>- can assess main formal mistakes in oral academic communication and the most common errors in academic writing (papers/ thesis),</li> <li>- can better assess weakness in arguments concerning scientific data,</li> <li>- is able to logically formulate a hypothesis/aims in a thesis/article in which they are an author, understands how to clearly present results, how to write a discussion in comparison with the results of other authors, how to formulate a well-balanced conclusion, the student is familiar with the principles of proper citation of relevant literature,</li> <li>- can prepare a high-quality oral presentation regarding own scientific results/diploma thesis.</li> </ul>	

**Class syllabus:**

## Lectures:

Core academic skills of medical students. Academic communication with researchers' supervisors. Academic English, analysis of selected mistakes across papers and diploma thesis. Oral and poster presentation. How to prepare an Abstract (paper/conference). Medical databases. References.

## Seminars:

Scientific publication: Introduction; Scientific publication: Material (Patients) and Methods, Scientific publication: Results; Scientific publication: Discussion; Scientific publication: Conclusions; How to write a review article/systematic review.

**Recommended literature:**

- Materials from lectures and seminars,
- at least 5 selected scientific articles with an impact factor on the diploma thesis topic.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 55

A	B	C	D	E	FX
74,55	20,0	5,45	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Beáta Mladosičová, CSc., prof. MUDr. Marián Bernadič, CSc., prof. MUDr. Ivan Hulín, DrSc., prof. MUDr. Daniela Ostatníková, PhD., MUDr. Ljuba Bachárová, DrSc.

**Last change:** 30.11.2022

**Approved by:**

## STATE EXAM DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF/L-VLa-O-5/15	<b>Course title:</b> Defense of the Diploma Thesis
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>State exam syllabus:</b>	
<b>Last change:</b>	
<b>Approved by:</b>	

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KSMCh/L-S-VLa-070/18	<b>Course title:</b> Dental Medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 14s / 3s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - attendance at the lectures - 100% attendance at the seminar - 1 written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Normal orofacial region and by pathological conditions. Aetiology, prevention, diagnostics and therapy of the dentition and oral soft tissues. Emphasis layed upon causing factors, early diagnostics, risk of complications a relations to the general health. Knowledge: basics of conservative dentistry, periodontology and oral pathology, dental prosthetics, orthodontics, dentoalveolar and maxillofacial surgery. Skills: not required	
<b>Class syllabus:</b> Disorders of hard dental tissues, dental pulp, apical periodontium, oral focal infection. Manifestation of general disorders in oral cavity. Orthodontic anomalies, orofacial clefts. Prosthetic replacement of missing teeth. Infections around the jaws, fractures of the facial skeleton, oncology of head and neck. Treatment of handicaped patients. Long term follow-up.	
<b>Recommended literature:</b> -LEWIS, M.A.O, LAMEY, J.P.: Oral medicine in primary dental care. 4th ed., Springer Verlag 2019. -MITCHELL, L., MITCHELL, D.A., McCAUL, L.: Oxford handbook of clinical dentistry. 5th ed., Oxford University Press 2009, 761 pp. ISBN 978-0-19-955330-3	
<b>Languages necessary to complete the course:</b> english	

<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 819					
A	B	C	D	E	FX
65,93	24,05	6,59	2,08	1,34	0,0
<p><b>Lecturers:</b> prof. MUDr. Peter Stanko, PhD., MUDr. Dušan Hollý, PhD., MPH, MDDr. Nikola Držíková Borovanová, MUDr. Rastislav Edelstein, PhD., MDDr. Kristína Hrdličková, MDDr. Michail Vasileios Kapetanakis, MDDr. Nora Kelecsényiová, MDDr. Anna Korpášová, MUDr. Mgr. Ján Kováč, PhD., MPH, MDDr. Nikos Leptos, MUDr. Juraj Lysý, PhD., MPH, MDDr. Ľubomír Malíček, PhD., MDDr. Marek Matajs, PhD., MDDr. Šamseh Merdaa, MUDr. Bohuslav Novák, PhD., MUDr. Andrea Nováková, PhD., MUDr. Daniela Novotňáková, PhD., MPH, MDDr. Bich Pham Ngoc, MDDr. Soňa Pintešová, PhD., MDDr. Vladimír Prachár, doktor medicíny Halyna Pruts, MDDr. Alessandro Emanuele Sangalli, MDDr. Martina Sirotková, MUDr. Rastislav Slávik, MDDr. Adam Stebel, PhD., MDDr. Martin Strunga, doc. MUDr. Andrej Thurzo, PhD.</p>					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.DK/L-S-VLa-008/19	<b>Course title:</b> Dermatovenerology 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 15s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚFKF/L-S-VLa-012/19 - Pharmacology 2	
<b>Course requirements:</b> Test - minimum of 60% success rate Evaluation of the test: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less Exam: practical part – writing the medical record of one patient, including differential diagnosis, 1 question from practicals - Theoretical part - 3 questions from dermatovenerology	
<b>Learning outcomes:</b> Theoretical knowledge: Etiopathogenesis, clinical picture, diagnostics, differential diagnosis and therapy of mucocutaneous diseases. Principles of topical therapy in dermatology, preventive measures. Practical skills: differential diagnostic procedures. Proposals for examination and therapy of cutaneous diseases, principles of topical therapy in dermatology. Trichogram, dermoscopy, cryotherapy, lasers, phototherapy, PDT, compressive therapy	
<b>Class syllabus:</b> Medicamentous exanthema. Urticaria, angioedema. Eczema contactum allergicum. Toxic dermatitis. Dermatitis seborrhoica. Dermatitis atopica. Eczema microbiale. Erythemosquamous dermatosis. Papular dermatosis - lichen ruber, prurigo. Bullous dermatosis - pemphigus, pemphigoid, dermatitis herpetiformis. Disorders of blood and lymphatic vessels. Neutrophils and eosinophils dermatosis. Disorders of the hair and nails. Disorders of the oral cavity and lips. Skin manifestations of metabolic disorders of aminoacids, mucopolysaccharides, vitamins and lipids. Paraneoplastic dermatosis. Skin manifestation of internal diseases. Specific skin characteristics of infants and children. Genodermatosis: disorders of keratinization, hereditary epidermolysis. Porphyrria. Mastocytosis. Disorders of connective tissue. Nevi.	
<b>Recommended literature:</b> Buchvald, J.: Praktikum z dermatovenerológie pre štáždžujúcich. Bratislava,UK,1996.72 s. Skriptá. Šimaljaková, M., Buchvald,D.: Dermatovenerológia, UK Bratislava, 2019, 543 s.. Buchvald,J. Buchvald,D.: Dermatovenerológia. Bratislava, SAP 2002, 520 s.	

Švecová,D., Danilla.T.: Textbook of Dermatology. UK Bratislava, 2017, 384 s.  
Švecová, D.: Handbook of Dermatovenerology for Practical Lessons , UK Bratislava 2018, 274 s.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 613

A	B	C	D	E	FX
99,35	0,0	0,16	0,16	0,33	0,0

**Lecturers:** prof. MUDr. Mária Šimaljaková, PhD., prof. MUDr. Danka Švecová, PhD., doc. MUDr. Dušan Buchvald, CSc., doc. MUDr. Tibor Danilla, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.DK/L-S-VLa-009/19	<b>Course title:</b> Dermatovenerology 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 20s / 20s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.DK/L-S-VLa-008/19 - Dermatovenerology 1	
<b>Course requirements:</b> 100 % attendance in practical lessons Exam: written – test: minimum score: 60 % Practical part- patient’s examination - preparing of hospital record differential -diagnostic process, question from practical lessons Theoretical part - 3 questions from dermatovenerology Results rating: A: 91 - 100 %, B: 81 - 90 %, C: 73 - 80 %, D: 66 - 72 %, E: 60 - 65 %, Fx: 59 % and less Final rating is determined as the average of all received ratings.	
<b>Learning outcomes:</b> Practical skills: Application of differential-diagnostic processes in clinical practice, therapeutic methods. Preserve the therapy principles of skin diseases. Knowledge: Etiopathogenesis knowledge, clinical picture of dermatoses, diagnostic process, differential diagnoses, therapy of skin and mucous membrane disorders. Principles of therapy of skin diseases and its prevention.	
<b>Class syllabus:</b> Reactions to medications (exanthema medicamentosum), urticaria, oedema Quincke. Eczema contactum allergicum. Dermatitis contacta toxica. Seborrhoic dermatitis, Atopic dermatitis , Eczema microbiale. Erythematous diseases. Pustular diseases. Diseases of blood vessels, chronic venous insufficiency. Acne, rosacea, dermatitis rosaceiformis. Hidradenitis suppurativa. Alopecia – cicatricial, noncicatricial. Diseases of the nails. Disorders of lips and oral mucosa. Precanceroses, Benign tumours of skin and mucous membranes. Malignant tumours of skin and mucous membranes. Specific signs of children dermatoses, Genodermatoses – disorders of keratinization, hereditary epidermolysis, palmo-plantar keratoses. Porphyrias. Masocytoses. Diseases of connective tissue. Nevi.	
<b>Recommended literature:</b> Švecová, D., Danilla, T.: Textbook of Dermatology. UK Bratislava, 2014, 346 p Švecová, D., Danilla, T.: Textbook of Dermatology. UK Bratislava, 2010, 344 p.	

Švecová, D.: Handbook of Dermatovenerology for Practical Lessons, UK Bratislava, 2014, 167p.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 483

A	B	C	D	E	FX
54,87	19,05	14,08	8,07	3,31	0,62

**Lecturers:** prof. MUDr. Mária Šimaljaková, PhD., prof. MUDr. Danka Švecová, PhD., doc. MUDr. Dušan Buchvald, CSc., doc. MUDr. Tibor Danilla, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF/L-S-VLa-071/19	<b>Course title:</b> Diploma Work 1
<b>Educational activities:</b> <b>Type of activities:</b> independent work <b>Number of hours:</b> <b>per week: per level/semester:</b> 40s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> communication with the final thesis supervisor presentation of agreed outcomes and their evaluation by the thesis supervisor	
<b>Learning outcomes:</b> to elaborate the chosen topic at the level of a scientific study - appropriate choice of scientific literature - to apply an appropriate methodology and research methods	
<b>Class syllabus:</b> - topic selection and communication with the thesis supervisor - define the objectives of the final thesis - selection of bibliography	
<b>Recommended literature:</b> Internal Regulation No. 7/2018 Guideline of the Rector of Comenius University in Bratislava. The full text of Internal Regulation No. 12/2013 of the Guideline of the Rector of Comenius University in Bratislava on the Basic Requirements of Final Theses, Rigorous Theses, and Habilitation Theses, Originality Check, Storing and Accessibility at Comenius University in Bratislava as amended by Appendix No. 1 and Appendix No. 2 Internal Regulation No. 10/2020 Study Regulations Comenius University in Bratislava, Faculty of Medicine Bibliography according to the diploma thesis	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 488					
A	B	C	D	E	FX
90,98	4,3	1,43	1,23	1,84	0,2
<b>Lecturers:</b>					
<b>Last change:</b> 28.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF/L-S-VLa-072/19	<b>Course title:</b> Diploma Work 2
<b>Educational activities:</b> <b>Type of activities:</b> independent work <b>Number of hours:</b> <b>per week: per level/semester:</b> 50s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF/L-S-VLa-071/19 - Diploma Work 1	
<b>Course requirements:</b> communication with the final thesis supervisor presentation of agreed outcomes and their evaluation by the thesis supervisor	
<b>Learning outcomes:</b> - to elaborate the chosen topic at the level of a scientific study - appropriate choice of scientific literature - to apply an appropriate methodology and research methods	
<b>Class syllabus:</b> - preparation and study of selected literature (research, textbooks, monographs, offprints of works in particular scientific field) - preparation of diploma thesis synopsis - to start working on the core of the diploma thesis, which is the main part of the thesis	
<b>Recommended literature:</b> Internal Regulation No. 7/2018 Guideline of the Rector of Comenius University in Bratislava. The full text of Internal Regulation No. 12/2013 of the Guideline of the Rector of Comenius University in Bratislava on the Basic Requirements of Final Theses, Rigorous Theses, and Habilitation Theses, Originality Check, Storing and Accessibility at Comenius University in Bratislava as amended by Appendix No. 1 and Appendix No. 2 Internal Regulation No. 10/2020 Study Regulations Comenius University in Bratislava, Faculty of Medicine Bibliography according to the diploma thesis	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 532					
A	B	C	D	E	FX
83,83	6,39	5,26	1,5	2,44	0,56
<b>Lecturers:</b>					
<b>Last change:</b> 28.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023					
<b>University:</b> Comenius University Bratislava					
<b>Faculty:</b> Faculty of Medicine					
<b>Course ID:</b> LF/L-S-VLa-073/19		<b>Course title:</b> Diploma Work 3			
<b>Educational activities:</b> <b>Type of activities:</b> independent work <b>Number of hours:</b> <b>per week: per level/semester:</b> 50s <b>Form of the course:</b> on-site learning					
<b>Number of credits:</b> 2					
<b>Recommended semester:</b> 10.					
<b>Educational level:</b> I.II.					
<b>Prerequisites:</b> LF/L-S-VLa-072/19 - Diploma Work 2					
<b>Course requirements:</b> communication with the diploma work supervisor presentation of agreed outcomes and their evaluation by the thesis supervisor					
<b>Learning outcomes:</b> - to elaborate the chosen topic at the level of a scientific study - appropriate choice of scientific literature - to apply an appropriate methodology and research methods					
<b>Class syllabus:</b> - working on the core of the diploma thesis - division into chapters, subchapters - preparation of introduction - preparation of conclusion - preparation of bibliography					
<b>Recommended literature:</b> Internal regulation CU n. 12/2013 Rector's Directive of Comenius University in Bratislava, about the basic requirements of theses and qualification works, their bibliographic registration, control of originality, about archiving and publishing at Comenius University in Bratislava Internal regulation n. 12/2013 Study regulation FM CU in Bratislava Bibliography according to the diploma work					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 438					
A	B	C	D	E	FX
81,74	7,76	7,31	0,91	2,05	0,23

<b>Lecturers:</b>
<b>Last change:</b> 28.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF/L-S-VLa-074/19	<b>Course title:</b> Diploma Work 4
<b>Educational activities:</b> <b>Type of activities:</b> independent work <b>Number of hours:</b> <b>per week: per level/semester:</b> 100s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 11.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF/L-S-VLa-073/19 - Diploma Work 3	
<b>Course requirements:</b> communication with the diploma thesis supervisor presentation of agreed outcomes and their evaluation by the thesis supervisor	
<b>Learning outcomes:</b> - finalisation of the chosen topic - control by the thesis supervisor - thesis submission in the AIS2 information system	
<b>Class syllabus:</b> - abstract in Slovak and English language - introduction - conclusion - bibliography	
<b>Recommended literature:</b> Internal Regulation No 7/2018 Guideline of the Rector of Comenius University in Bratislava. The full text of Internal Regulation No. 12/2013 of the Guideline of the Rector of Comenius University in Bratislava on the Basic Requirements of Final Theses, Rigorous Theses, and Habilitation Theses, Originality Check, Storing and Accessibility at Comenius University in Bratislava as amended by Appendix No. 1 and Appendix No. 2 Internal Regulation No 10/2020 Study Regulations Comenius University in Bratislava, Faculty of Medicine Bibliography according to the diploma thesis	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 531					
A	B	C	D	E	FX
84,18	7,16	5,27	2,26	1,13	0,0
<b>Lecturers:</b>					
<b>Last change:</b> 28.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S-VLa-121/19	<b>Course title:</b> Electromagnetic methods in medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Continuously: - Active participation in lectures – weight 0.1 - Passing continuous written tests (at least 60 %) – weight 0.2 Final exam: - Passing the final written test (at least 60 %) - weight 0.4 - Oral exam - presentation of the selected topic - weight 0.3 Test rating: A: 91 % – 100 %, B: 81 % – 90 %, C: 73 % – 80 %, D: 66 % – 72 %, E: 60 % – 65 %, Fx: 59 % and less. The overall rating is determined from the weighted average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: Upon successful completion of the course, students should be familiar with the physical principles of electromagnetic methods in medicine as a diagnostic and therapeutic tool, including the physical effects of external factors on the body, in particular in terms of health protection. Skills: Ability to determine the suitability of using an electromagnetic method for a particular patient in terms of the usefulness of the information obtained in diagnostic methods or patient benefit in therapeutic methods and patient safety.	
<b>Class syllabus:</b> Anatomical, physiological and physical basics of bioelectromagnetism. Transport processes at the cellular level. Biophysics of excitation processes. Biological signals as a basis for diagnostic methods in medicine (ECG, EEG, ERG, EGG, EMG, MCG, MEG, MMG). Basics of biomedical electronics. Types of electrodes. Passive electrical and magnetic properties of cells, tissues and organs as the basis of therapeutic methods. Electrical and magnetic stimulation of nervous and cardiac tissue, defibrillation of the heart. Impedance plethysmography, impedance tomography, electrodermal response. Characteristics of electromagnetic fields and their interaction with organism. Application of DC and AC - electrotherapeutic systems.	

Electromagnetic spectrum, its basic characteristics and assignment of regions to individual spectroscopic and tomographic methods. Influence of non-ionizing electromagnetic radiation to the body. Laser as optical electromagnetic radiation - its interaction with organism, use. Health and safety at registration and application of electrical and magnetic signals.

**Recommended literature:**

- JIRÁK, D., VÍTEK, F. Basics of Medical Biophysics. Prague : Charles University, Karolinum Press, 2017, 224 p. ISBN 978-80-246-3810-2 – selected chapters.
- HRAZDIRA, I., MORNSTEIN, V., BOUREK, A., ŠKORPÍKOVÁ, J. Fundamentals of Biophysics and Medical Technology. Brno : MU Brno, 2012, 326 p. ISBN 9788021057586 – selected chapters.
- MACFARLANE, P.W., OOSTEROM, A., PAHLM, O., KLIGFIELD, P., JANSE, M., CAMM, J. (Eds.) Comprehensive Electrocardiology. London: Springer, 2010 (2nd edition). In 4 volumes. 2308 p. ISBN: 978-1-84882-045-6 – selected chapters.
- MALMIVUO, J., PLONSEY, R. Bioelectromagnetism - Principles and Applications of Bioelectric and Biomagnetic Fields. Boca Raton – London - New York: CRC Press, 15, 641 p. ISBN: 978-0-19-505823-9 – selected chapters (<https://www.bem.fi/book/bem.fi>).
- WEBSTER, J. G. (ed.) The Physiological Measurement Handbook. New York : John Wiley&Sons, Inc., 2015 (4th edition). 587 p. ISBN 978-1-4398-0841-1 – selected chapters.
- Lectures on the MEFANET FM CU portal - section Biophysics (<http://portal.fmed.uniba.sk/>).
- Blended e-course ([www.moja.uniba.sk](http://www.moja.uniba.sk)).
- Other innovated printed and internet sources available.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1

A	B	C	D	E	FX
0,0	100,0	0,0	0,0	0,0	0,0

**Lecturers:** doc. RNDr. Mgr. Katarína Kozlíková, CSc.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚE/L-S-VLa-010/20	<b>Course title:</b> Epidemiology
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9., 10..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the practicals - 1 written test (minimum 70% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. Final exam: oral - theoretical exam: 3 question (methods in epidemiology, epidemiology of communicable diseases, epidemiology of noncommunicable diseases) The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: Knowledge of epidemiologic situation of the most frequent communicable and noncommunicable diseases in the world, Europe and Slovakia. Knowledge of methods of monitoring of population health status, ability to list and interpret basic health indicators. Ability to define and describe basic epidemiologic methods and their use in monitoring and assessment of disease occurrence. Ability to define and find data sources on disease occurrence in Slovakia, Europe and in the world. Ability to interpret principles of vaccinology and vaccine effectiveness evaluation. Knowledge on prevalence of the most important determinants of population health. Ability to describe international and national situation in nosocomial infection prevalence, monitoring, risk factors and preventive measures. Ability to define strength of evidence coming from epidemiological studies and interpret its use in evidence-based medicine. Skills: Skill to find up-to-date information on communicable and noncommunicable disease prevalence in national and international databases. Ability to use basic epidemiological methods - description and analysis - for description of specific disease occurrence and calculation of strength of association between disease outcome and determining factor. Skill to calculate basic indicators of population health status from available data and to interpret the findings. Ability to define principles of communicable diseases dissemination, steps of outbreak investigation and skill to propose outbreak response measures in model situation. Skill to critically read outputs of epidemiologic studies	

published in scientific literature - ability to assess the used methods and limitations, correctly interpret published results.

**Class syllabus:**

Epidemiologic situation of communicable and noncommunicable diseases in the world, Europe and in the Slovak Republic. Burden of diseases. Population health indicators. Epidemiologic methods - description and analysis. Data collection and processing. Epidemiologic studies. Epidemic process, classification and prevention of infectious diseases. Immunisation and vaccine effectiveness assessment. Epidemiology and prevention of nosocomial infections. Risk factors and prevention of most frequent noncommunicable diseases. Importance of epidemiologic monitoring and assessment for evidence based medicine.

**Recommended literature:**

Špaleková M. (ed.) Epidemiology for Study of Public Health. Volume 1 & 2. Comenius University in Bratislava. 2015  
Celentano D. Gordis Epidemiology. 6th Edition. Elsevier Science 2019. ISBN 0323552293

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 474

A	B	C	D	E	FX
42,41	28,48	16,24	9,28	1,69	1,9

**Lecturers:** prof. MUDr. Alexandra Bražinová, PhD., MPH, MUDr. Vanda Výrosteková, CSc., MUDr. Mgr. Miriam Fulová, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-166/22	<b>Course title:</b> Essentials of Physiological and Clinical Nutrition
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100 % presence in lectures and seminars Submitting of the written assignments and presentations Examination: final written assignment Evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % or less The overall rating is determined as the average of the marks for assignments and the mark for the final written assignment	
<b>Learning outcomes:</b> <b>Knowledge:</b> Presenting the impact of food components on body functions and health. Explaining the concept of nutritional value of food and nutrition. Distinguish the specifics of nutritional requirements of specific groups (children, pregnant women, seniors, patients, etc.). To argue the role of nutrition and its components in the prevention and treatment of health disorders. To interpret the principles of clinical nutrition and diet system, the ability to apply them in clinical situations. Ability to analyse the risks and benefits of alternative nutrition. To analyse patients' diet. Nutritional counselling and design of dietary recommendations for a patient. <b>Skills:</b> Ability to analyse and evaluate an individual's nutrition. Evaluate the basic indicators of an individual's nutritional status. Provide basic nutritional counselling based on current scientific knowledge and recommendations, determine the energy needs of the individual and the optimal representation of macronutrients in the diet. Design a nutrition plan / diet for healthy people and people with special nutritional needs. Assess the benefits and potential health risks of different dietary approaches. Justify and select relevant sources of nutritional information in scientific literature.	
<b>Class syllabus:</b> Nutrients, their sources and functions. Other nutritionally important food components and their effect on the human body. Food supplements, their risks and benefits. Current nutritional situation - nutritional recommendations. Food as a source of nutrients, nutritional value. Energy value of food. Nutrition in the specific age groups. Nutrition in the prevention and treatment of diseases - obesity,	

cardiovascular diseases, cancer, osteoporosis, diabetes mellitus, diseases of the digestive system. Nutrition and oral health. Food allergies. Anorexia nervosa and bulimia nervosa. Dietetics, diet system in hospitals, characteristics of diets. Enteral and parenteral nutrition. Alternative nutrition and fad diets. Nutrition as part of a healthy lifestyle. Nutrition and information resources. Nutrition counselling.

**Recommended literature:**

Human Nutrition. University of Hawaii at Manoa, Food Science and Human Nutrition Program. Edition 2020. <http://pressbooks.oer.hawaii.edu/humannutrition2/>  
Sobotka, L. et al. Basics in Clinical Nutrition 5th Edition, Praha: Galén, 2019, 676 pp. 978-80-7492-427-9  
Ostatníková, D. et al.: Basics of Medical Physiology. Bratislava: Comenius University, 2011. 298p. ISBN 978-80-223-2993-4.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 38

A	B	C	D	E	FX
65,79	28,95	5,26	0,0	0,0	0,0

**Lecturers:** doc. MUDr. Katarína Babinská, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KUVM/L-S-VLa-061/18	<b>Course title:</b> First Aid
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 9s / 9s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% participation Practical CPR Written exam – test with minimum achievement of 60% + 2 teoretical questions Test evaluation: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less Final evaluation will be calculated as the average of achieved partial evaluations.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - in theory handle the providing of the right first aid at a place of sudden injury as an integral part of health care procedure - to describe the organization of Integrated Rescue System in Slovakia <b>Skills:</b> - practical basic life support, basics of wound care, transportation of the injured. Manipulation with automatic external defibrillator.	
<b>Class syllabus:</b> Motivation to provide the first aid (personal and legal). Basic life functions, their functional anatomy and interactions. Diagnostics of basic life functions. Basic life saving moves. Cardiopulmonary resuscitation of adults and children. Automated external defibrillation. First aid in selected sudden injuries (acute coronary syndrome – heart attack, stroke, traffic accidents and other injuries, unconsciousness, choking, breathlessness, stopped blood circulation, heavy bleeding, cramps). Prevention of sudden injuries.	
<b>Recommended literature:</b> European Resuscitation Council Guidelines 2021 Wyatt, J., Illingworth, Graham, c., Hogg, K. : Oxford Handbook of Emergency Medicine, Oxford University Press, 2015	
<b>Languages necessary to complete the course:</b> english	

<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 1242					
A	B	C	D	E	FX
12,48	16,1	20,61	23,83	26,01	0,97
<b>Lecturers:</b> MUDr. Teodor Bachleda, PhD., MBA, PhDr. Hana Belejová, PhD., prof. MUDr. Oto Masár, CSc., PhDr. Dušan Sysel, PhD.					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSL/L-S-VLa-066/20	<b>Course title:</b> Forensic Medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9., 10..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the interships Final exam: - theoretical exam: 2 questions Exam evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined on the basis of the theoretical exam results.	
<b>Learning outcomes:</b> Knowledge and skills: To learn the basics of forensic medicine and orientation in criminal matters in medical practice. To learn the basics about external and internal examination of a dead body and about determination of the cause of death. To acquire the knowledge about the compilation of medical certificates and expert's opinions and about the process of their interpretation in front of the court. Examination of a dead body and filling in official documents. Participation in the process of identification of persons with undetected identity. Examination of an alleged assailant (principles, documentation). Examination of a victim (principles, documentation). Compilation of medical certificates.	
<b>Class syllabus:</b> Forensic medicine, its importance and role in medicine and society. Principles of criminal proceedings. Merits of selected crimes. Courts and prosecution offices. Doctor as a witness, doctor as an expert. Protective treatment. Bodily injury, severe bodily harm. Medical liability. Death and process of dying. Procedures taken after death. Categories and manners of death. Early and late postmortem changes. Sudden death in children and in adults. Abrasions, contusions. Lacerations, incised, slash, stab and chopping wounds. Firearm injuries – single projectile injuries, shot-gun pellets injuries, explosive injuries. Mechanical asphyxia and its forms - hanging, ligature strangulation, manual strangulation (throttling), smothering, postural asphyxia, and drowning. Fall from height. The effect of changes in atmospheric pressure and of elevated and reduced temperature. The effect of electricity and lightning. Forensic procedures to detect poisoning.	
<b>Recommended literature:</b>	

Simpson's Forensic Medicine 14th ed. Jason Payne – James, Richard Jones, CRC Press Taylor & Francis, London, 2020

**Languages necessary to complete the course:**  
english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 486

A	B	C	D	E	FX
91,15	5,76	2,26	0,41	0,41	0,0

**Lecturers:** Dr.h.c. prof. MUDr. Štefan Galbavý, DrSc., prof. MUDr. Jozef Šidlo, CSc.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚVL/L-S-VLa-069/19	<b>Course title:</b> General Medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 10s / 5s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9., 10..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚFKF/L-S-VLa-012/19 - Pharmacology 2	
<b>Course requirements:</b> 100% participation in internships Evaluation of the student, the level of his knowledge by the lecturer after completing the internship. Writing medical report – Case report and evaluation sheet from internship.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Know the basic differential – diagnostic and therapeutic procedures in the general practitioner's office</li> <li>- Know the ethical and legal principles of providing healthcare</li> <li>- Correct communication with patients</li> <li>- Recognize acute conditions in a general practitioner's outpatient office</li> <li>- Describe the physical examination in a general practitioner's outpatient office</li> <li>- Know the specifics of the work of a general practitioner, e.g. preventive examination, preoperative examination, vaccination, arterial hypertension, dyslipidemia.</li> <li>- Know the prescription of medicines and medical devices</li> <li>- Identify violence in all forms, cooperate with competent authorities</li> <li>- Know the organization and work system of the general practitioner</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Analyze the information obtained</li> <li>- Master basic diagnostic, therapeutic and evaluation procedures in the general practitioner's office, including POCT, ECG, ankle brachial index with pulse wave velocity.</li> <li>- Manage acute conditions in the general practitioner's office</li> <li>- Demonstrate the ability to communicate effectively with patients</li> <li>- Manage medical documentation electronically and in writing form</li> <li>- Apply evidence-based work</li> <li>- Knowledge about technics how to apply i.v., sc. and i.m. therapy, vaccination, blood examination</li> </ul>	
<b>Class syllabus:</b> Lectures	

- Introduction of Department of General Medicine. How general practitioners work in Slovakia. How and why do we stratify the patient in the general office ?
  - History and introduction to subject General medicine. How to write case report ?  
Metabolic syndrom - case from my practice. Preoperative examination.
  - Prevention and preventive programs.
  - Vaccination in the general practitioner's office.
  - Measurement of ankle brachial index and pulse wave in the general practitioner's office.
  - Young general practitioners in the world.
  - Upper and lower respiratory tract infections – differential diagnosis and correct procedure.
- Practical training
- History of general medicine. Basic terms.
2. Management of general medicine for adults - overview: medical, partially medical and non-medical activities.
  3. Diagnosis and treatment of patients in a general practitioner's outpatient clinic - from symptom and syndrome to diagnosis (diagnosis, differential diagnosis and therapeutic options, SV and LZ, cooperation with SAS).
  4. Specifics of general practitioner's work – preventive and preoperative examinations, vaccination, diagnostics, pre-hospital medical care, visiting service, cooperation with the Social and Health Insurance Agency.
  5. Acute conditions in the general practitioner's office.
  6. Correct Communication with the patient.
  7. Keeping medical documentation in the general practitioner's office.
  8. Assessment activity.

**Recommended literature:**

Kumar, P., Clark, M. Kumar and Clark's Clinical Medicine. Philadelphia: Saunders Ltd., 2012.1352 s. ISBN-13: 978-0-7020-449-91

**Languages necessary to complete the course:**

English

**Notes:**

1. practical internship in the general office (the student can choose from the list): 1 day, anytime during actual semester
  - the student must contact (by phone or email) the trainer at the accredited training offices (listed in contacts) and arrange an internship at the office in time
  - the trainer trains optimally one, maximum two students in one day
2. the trainer evaluates the student's knowledge, his activity and presence
3. the student is required to prepare a structured evaluation sheet in which he briefly describes his first day in the general office and the most interesting case study

**Past grade distribution**

Total number of evaluated students: 515

A	B	C	D	E	FX
23,11	8,16	21,55	29,32	17,86	0,0

**Lecturers:** MUDr. Beata Špániková, PhD.

**Last change:** 24.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KG1/L-S-VLa-124/19	<b>Course title:</b> Geriatrics
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> general faculty requirements for COS, 80 % attendance at the lectures, final exam: 2 question (general geriatrics – 1 question, special geriatrics – 1 question)	
<b>Learning outcomes:</b> Knowledge: the main outputs obtained by the student by completing the subject are the knowledge and abilities necessary to understand the basic set of facts, principles, theories and procedures of clinical geriatrics according to the subject syllabus, with particular regard to the diagnostics and treatment of diseases with high specificity for seniors and/or high incidence in seniors. Skills: after successful completion of the subject, the student should be able to carry out basic examination and to consider the diagnostics and treatment of the senior, taking into account his/her specificities given in particular by polymorbidity and social status, with particular regard to the diagnostics and treatment of diseases with high specificity for seniors and/or high incidence in seniors, based on the logical and creative use of acquired knowledge.	
<b>Class syllabus:</b> 1. Ageing theories; Premature aging syndromes. 2. Demography of ageing. 3. Social factors in geriatrics. 4. System of providing healthcare to seniors. 5. Healthy aging and prevention in geriatrics. 6. Communication with senior and his family. 7. Legal aspects more specific to geriatrics. 8. Fragility of senior. 9. Polymorbidity. 10. Specifics of clinical course of diseases in seniors (general). 11. Specifics of disease diagnostics in seniors (general). 12. Specifics of disease treatment in seniors (general). 13. Specifics of diseases (cardiovascular, respiratory, gastrointestinal, nephrological - urological/ gynaecological, endocrine, haematological, infectious, of locomotor apparatus, neurological, psychiatric, sensory) in seniors; geriatric giants	

**Recommended literature:**

Fillit HM, Rockwood K, Young J (Eds.). Brocklehurst's textbook of geriatric medicine and gerontology (8th edition). Philadelphia, Elsevier 2017, 1143 p.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 3

A	B	C	D	E	FX
66,67	0,0	33,33	0,0	0,0	0,0

**Lecturers:** doc. MUDr. Martin Dúbrava, CSc.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-145-4/22	<b>Course title:</b> German Language 1
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the assessment of the written part of the exam) and one exam test (100 points, makes 85% of the assessment of the written part of the exam). Oral part of the exam – discussion on a selected professional topic. Test assessment: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall grade (minimum of 60%) is determined by the weighted average of the grades obtained in the midterm (15%) and exam (85%) test and the result of the oral part of the exam.	
<b>Learning outcomes:</b> Knowledge: Acquisition of professional vocabulary from individual medical fields; deepening of knowledge in the field of morphology of a foreign language. Correct use of syntax when preparing lectures, papers and presentations. Skills: Language competence enabling the highest possible level of obtaining information and knowledge from foreign language sources; written and oral presentation of own knowledge and opinions in a foreign language; ability to communicate with the patient; ability to understand oral speech, lectures on professional medical topics.	
<b>Class syllabus:</b> Anatomy and the medical profession - vocabulary (body parts, organs, structures), expression of opinion and assumptions. Hospital - departments, processes, equipment, staff and their roles, relative sentences. Oncology - diagnosis and treatment procedures, prepositions. Infectology - description of symptoms, information retrieval and summarizing. Trauma medicine - first aid, the past participle. Emergency medicine - case studies, adjectives. Urology - most common urological problems and their treatment, summarising texts. Endocrinology - thyroid diseases, compound nouns. Cardiology - high blood pressure, heart attack, formation of nouns from verbs. Dermatology - skin and vascular diseases, subordinate clauses. Ophthalmology - diseases of the eyes, gradation of adjectives. Sports medicine - musculoskeletal diseases and injuries, genitive case. Rehabilitation medicine - patient roles and communication, past tenses.	

**Recommended literature:**

Ivanová, A., Hromadová, K.: Deutsch für medizinische Berufe. Bratislava: Univerzita Komenského 2013. 262 p. ISBN 978-80-223-3400-6  
Wortberg, Ch.: Menschen im Beruf – Medizin B2/C1, Kursbuch mit Audio-CD. Max Hueber Verlag 2016. 152 p. ISBN 9783197011905

**Languages necessary to complete the course:**

German, English

**Notes:****Past grade distribution**

Total number of evaluated students: 28

A	B	C	D	E	FX
89,29	7,14	3,57	0,0	0,0	0,0

**Lecturers:** PhDr. Tomáš Hamar, PhD., Mgr. Katarína Hromadová, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Lucia Lauková, PhD., Mgr. Zuzana Motešická, PhD.

**Last change:** 22.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-146-4/22	<b>Course title:</b> German Language 2
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the assessment of the written part of the exam) and one exam test (100 points, makes 85% of the assessment of the written part of the exam). Oral part of the exam – discussion on a selected professional topic. Test assessment: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall grade (minimum of 60%) is determined by the weighted average of the grades obtained in the midterm (15%) and exam (85%) test and the result of the oral part of the exam.	
<b>Learning outcomes:</b> Knowledge: Acquisition of professional vocabulary from individual medical fields; deepening of knowledge in the field of morphology of a foreign language. Correct use of syntax when preparing lectures, papers and presentations. Skills: Language competence enabling the highest possible level of obtaining information and knowledge from foreign language sources; written and oral presentation of own knowledge and opinions in a foreign language; ability to communicate with the patient; ability to understand oral speech, lectures on professional medical topics.	
<b>Class syllabus:</b> Orthopaedics - the impact of lifestyle, past tenses. Rheumatology - symptoms and causes of disease, infinitive constructions. Paediatrics - basic childhood diseases, reflexive pronouns. Internal medicine - history of medicine, acute appendicitis, defining technical terms. Neurology - nervous system and diseases, suffixes. Physiology - anatomy and function of the heart and liver, blood pressure, compound nouns. Pharmacology - indication of drugs, placebo effect, modal verbs. Otorhinolaryngology - hearing disorders, verb prefixes. Surgery - basic surgical procedures and instruments, present participle. Diabetology - disease manifestations and lifestyle modification, antonyms. Psychology - stress and its regulation, discussion. Alternative medicine - supportive treatment methods, presentation techniques.	
<b>Recommended literature:</b>	

Ivanová, A., Hromadová, K.: Deutsch für medizinische Berufe. Bratislava: Univerzita Komenského v Bratislave 2013. 262 p. ISBN 978-80-223-3400-6  
Wortberg, Ch.: Menschen im Beruf – Medizin B2/C1, Kursbuch mit Audio-CD. Max Hueber Verlag 2016. 152 p. ISBN 9783197011905

**Languages necessary to complete the course:**

German, English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 19

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** PhDr. Tomáš Hamar, PhD., Mgr. Katarína Hromadová, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Lucia Lauková, PhD., Mgr. Zuzana Motešická, PhD.

**Last change:** 22.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa146-5/22	<b>Course title:</b> German Language 2
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚCJ/L-S-VLa-145-5/22 - Nemecký jazyk 1	
<b>Course requirements:</b> - 100% attendance at the practicals - 2 written tests (minimum 60% of correct answers) <b>Final exam:</b> - discussion on a selected topic <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge:</b> To acquire basic receptive and productive communication skills required for further professional needs of students for purposes of practical communication in spoken and written language in social conversation and also in the subject field. To use the German language in everyday situations and routine social conversation with focus on university and medical environment. <b>Skills:</b> Reading comprehension, to be able to understand most common spoken and professional language, to communicate in speech, showing knowledge of a range and variety of vocabulary and of appropriate register in simple and routine tasks, to be able to write independently, to understand basic grammar and terminology and concepts focusing on their communicative importance (in accordance with the individual semesters). Students work in Moodle (which contains assignments for independent work and consolidation of knowledge) and MS Teams (communication with the teacher, sharing supplementary materials and giving tasks). The emphasis is on promoting an independent approach to learning.	
<b>Class syllabus:</b> Basic vocabulary and communication phrases - diagnoses, diseases and illnesses, their treatment options, professional texts on selected medical topics, doctor-patient conversation, question and answer formation, history taking according to individual medical disciplines. Hospital practice.	
<b>Recommended literature:</b>	

Ivanová, A., Hromadová, K.: Deutsch für medizinische Berufe. Bratislava: Univerzita Komenského, 2013. 262 p. ISBN 978-80-223-3400-6.					
<b>Languages necessary to complete the course:</b> english, german					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 2					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> PhDr. Tomáš Hamar, PhD., Mgr. Katarína Hromadová, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Lucia Lauková, PhD., Mgr. Zuzana Motešická, PhD.					
<b>Last change:</b> 06.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.GPK2/L-S-VLa-125-4/19	<b>Course title:</b> Gynaecological Oncology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 80 % attendance at the lectures <b>Final exam:</b> - theoretical exam: 2 question The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge:</b> Basics of tumor growth biology, differential diagnosis of benign and malignant tumors of female genitalia and breasts, their classification, principles and goals of their surgical treatment, postoperative care, follow-up, dispensarization of women with genetic risk of cancer, prophylactic measures in women with high genetic risk of ovarian and breast malignancies. <b>Skills:</b> Pap smear from the cervix uteri, basics of colposcopy, basics of ultrasound imaging of woman's genitalia, principles of lymphatic mapping of the breast, principles of fine-needle and large core-needle biopsies, possibility in assistance in oncogynecological and breast surgeries in OP theatre.	
<b>Class syllabus:</b> Basics of tumor growth biology, benign tumors of female genital organs and breasts, malignant tumors of female genital organs and breasts, their classification, principles and methods of their diagnosis, basics of their surgical treatment, postoperative care, follow up, dispensarization of women with genetic risk of cancer, prophylactic measures in women at high genetic risk for ovarian and breast cancer.	
<b>Recommended literature:</b> K. Pohlodek: An Introduction to Breast Diseases. UK Bratislava, 2014. 105 pp. <a href="https://www.fmed.uniba.sk/fileadmin/lf/sluzby/akademicka_kniznica/PDF/Elektronicke_knihy_LF_UK/An_Introduction_to_Breast_Diseases.pdf">https://www.fmed.uniba.sk/fileadmin/lf/sluzby/akademicka_kniznica/PDF/Elektronicke_knihy_LF_UK/An_Introduction_to_Breast_Diseases.pdf</a> Gynaecology by Ten Teachers, 20th Edition, CRC Press, 2017. 254 pp. Online ppt presentations on MS Teams (Prof. Pohlodek, Faculty of Medicine, Comenius University)	

<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 115					
A	B	C	D	E	FX
56,52	36,52	2,61	3,48	0,87	0,0
<b>Lecturers:</b> prof. MUDr. Kamil Pohlodek, PhD., MPH, prof. MUDr. Pavel Šuška, PhD., doc. MUDr. Vladimír Ferianec, PhD., doc. MUDr. Ivan Hollý, CSc., doc. MUDr. Martin Šimko, PhD., doc. MUDr. Mikuláš Redecha, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.GPK2/L-S-VLa-125-5/19	<b>Course title:</b> Gynaecological Oncology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 80 % attendance at the lectures <b>Final exam:</b> - theoretical exam: 2 question The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Basics of tumor growth biology, differential diagnosis of benign and malignant tumors of female genitalia and breasts, their classification, principles and goals of their surgical treatment, postoperative care, follow-up, dispensarization of women with genetic risk of cancer, prophylactic measures in women with high genetic risk of ovarian and breast malignancies. <b>Skills:</b> Pap smear from the cervix uteri, basics of colposcopy, basics of ultrasound imaging of woman's genitalia, principles of lymphatic mapping of the breast, principles of fine-needle and large core-needle biopsies, possibility in assistance in oncogynecological and breast surgeries in OP theatre.	
<b>Class syllabus:</b> Basics of tumor growth biology, benign tumors of female genital organs and breasts, malignant tumors of female genital organs and breasts, their classification, principles and methods of their diagnosis, basics of their surgical treatment, postoperative care, follow up, dispensarization of women with genetic risk of cancer, prophylactic measures in women at high genetic risk for ovarian and breast cancer.	
<b>Recommended literature:</b> K. Pohlodek: An Introduction to Breast Diseases. UK Bratislava, 2014. 105 pp. <a href="https://www.fmed.uniba.sk/fileadmin/lf/sluzby/akademicka_kniznica/PDF/Elektronicke_knihy_LF_UK/An_Introduction_to_Breast_Diseases.pdf">https://www.fmed.uniba.sk/fileadmin/lf/sluzby/akademicka_kniznica/PDF/Elektronicke_knihy_LF_UK/An_Introduction_to_Breast_Diseases.pdf</a> Gynaecology by Ten Teachers, 20th Edition, CRC Press, 2017. 254 pp. Online ppt presentations on MS Teams (Prof. Pohlodek, Faculty of Medicine, Comenius University)	

<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 32					
A	B	C	D	E	FX
25,0	68,75	3,13	0,0	3,13	0,0
<b>Lecturers:</b> prof. MUDr. Kamil Pohlodek, PhD., MPH, prof. MUDr. Pavel Šuška, PhD., doc. MUDr. Vladimír Ferianec, PhD., doc. MUDr. Ivan Hollý, CSc., doc. MUDr. Martin Šimko, PhD., doc. MUDr. Mikuláš Redecha, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## STATE EXAM DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.GPK1/L-VLa-ŠS-1/15	<b>Course title:</b> Gynaecology and Obstetrics
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>State exam syllabus:</b>	
<b>Last change:</b>	
<b>Approved by:</b>	

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.GPK1/L-S-VLa-105/20	<b>Course title:</b> Gynaecology and Obstetrics - practice
<b>Educational activities:</b> <b>Type of activities:</b> practice <b>Number of hours:</b> <b>per week: per level/semester:</b> 80s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance on practicals	
<b>Learning outcomes:</b> Knowledge: - acquaintance with the day-to-day work at the gynaecological-obstetric department - acquaintance with pharmacological treatment in gynaecology and obstetrics - acquaintance with pre-operative and post-operative care by patient in gynaecology and obstetrics - acquaintance of knowledge of asepsis and antisepsis Practical skills: - to conduct 2 physiological labours - assistance by gynaecological and obstetrical surgeries - the management of the patient documentation in gynaecology and obstetrics - observing of the labour and puerperium	
<b>Class syllabus:</b> - acquaintance of the organisation of the work at the gynaecological and obstetrical department - under the supervision of older doctor work in a position of secondary doctor - the aquirement of practical skills in gynaecology and obstetrics with the main focus on conducting physiological labour, assistance by gynaecological and obstetrical surgeries and the admission and examination of gynaecological and obstetrical patient	
<b>Recommended literature:</b> Monga, A. et al.: Gynecology by ten Teachers. 19th ed. Oxford University Press, 2011. 224 p. ISBN 978-0340983546 Baker, P.N. et al.: Obstetrics by ten Teachers. 19th ed. Oxford University Press, 2011. 352 p. ISBN 978-0340983539 Rob, L. a kol.: Gynekologie. 3. dopl. a preprac. vyd. Praha: Galén, 2019, 356 s. ISBN 978-80-7492-426-2 Šuška, P. a kol.: Vybrané kapitoly z gynekológie. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2017. 314 s. ISBN 978-80-223-4279-7	

Hájek, Z. a kol. Porodnictví. 3. zcela dopl. a přeprac. vyd. Praha: Grada, 2014. 580 s. ISBN 978-80-247-4529-9

Holomáň, K. a kol.: Vybrané kapitoly z pôrodnictva. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2014. 344 s. ISBN 978-80-223-3579-9

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 313

ABS0

100,0

**Lecturers:** prof. MUDr. Jozef Záhumenský, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.GPK1/L-S-VLa-015/20	<b>Course title:</b> Gynaecology and Obstetrics 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 35s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - anatomy and physiology of female genital tract, small pelvis , abdominal cavity and breast, - embryology and the congenital developmental disease of urogenital tract, - patophysiology, screening, diagnosis, clinical course and treatment of the inflammatory diseases of female genital tract, - family planning and contraception, - fertilization and the development of fertilised ovum, - physiological process of the pregnancy, labour and puerperium. <b>Skills:</b> - administration of the admission of the patient – taking history and communication, attendance on the morning rounds at the department, - basic gynaecological and obstetrical examination, - evaluation of the physiological and pathological cardiotokography, - the examination and evaluation of the basic microbiological smear, - the examination and evaluation of the functional vaginal cytology.	
<b>Class syllabus:</b> <b>Gynaecology:</b> - The history of gynaecology and obstetrics - Anatomy of female genital tract - The anatomy of external and internal female genital tract - The development and congenital developmental abnormalities of female genital tract - Menstrual cycle - physiology and abnormalities	

<ul style="list-style-type: none"> <li>- Life periods in womans life</li> <li>- Examination methods in Gynaecology and Obstetrics</li> <li>- Sexual life of women and its abnormalities</li> <li>- Family planing and contraception</li> <li>- Inflammation of female genital tract</li> </ul> <p>Obstetrics:</p> <ul style="list-style-type: none"> <li>- Physiological pregnancy</li> <li>- Puerperium</li> <li>- Vaginal labour</li> <li>- Physiological labour - occipital presentation</li> <li>- Breech position</li> <li>- Complication of duration of labour</li> <li>- Risk and pathological pregnancy</li> <li>- Irregularities of fertilised ovum / Early pregnancy complication</li> <li>- Management of the fetus during pregnancy</li> </ul>												
<p><b>Recommended literature:</b></p> <ol style="list-style-type: none"> <li>1. Monga, A. et al.: Gynecology by ten Teachers. 19th ed. Oxford University Press, 2011. 224 p. ISBN 978-0340983546</li> <li>2. Baker, P.N. et al.: Obstetrics by ten Teachers. 19th ed. Oxford University Press, 2011. 352 p. ISBN 978-0340983539</li> <li>3. Rob, L. a kol.: Gynekologie. 3. dopl. a přeprac. vyd. Praha: Galén, 2019, 356 s. ISBN 978-80-7492-426-2</li> <li>4. Šuška, P. a kol.: Vybrané kapitoly z gynekológie. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2017. 314 s. ISBN 978-80-223-4279-7</li> <li>5. Hájek, Z. a kol. Porodnictví. 3. zcela dopl. a přeprac. vyd. Praha: Grada, 2014. 580 s. ISBN 978-80-247-4529-9</li> <li>6. Holomáň, K. a kol.: Vybrané kapitoly z pôrodnictva. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2014. 344 s. ISBN 978-80-223-3579-9</li> </ol>												
<p><b>Languages necessary to complete the course:</b> english</p>												
<p><b>Notes:</b></p>												
<p><b>Past grade distribution</b> Total number of evaluated students: 508</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>FX</th> </tr> </thead> <tbody> <tr> <td>65,75</td> <td>15,16</td> <td>3,54</td> <td>8,07</td> <td>7,48</td> <td>0,0</td> </tr> </tbody> </table>	A	B	C	D	E	FX	65,75	15,16	3,54	8,07	7,48	0,0
A	B	C	D	E	FX							
65,75	15,16	3,54	8,07	7,48	0,0							
<p><b>Lecturers:</b> prof. MUDr. Miroslav Borovský, CSc., doc. MUDr. Peter Štencl, CSc., doc. MUDr. Miroslav Korbel', CSc., doc. MUDr. Martin Redecha, PhD., doc. MUDr. Martin Šimko, PhD., prof. MUDr. Pavel Šuška, PhD., doc. MUDr. Ivan Hollý, CSc., prof. MUDr. Jozef Záhumenský, PhD., prof. MUDr. Kamil Pohlodek, PhD., MPH, doc. MUDr. Rastislav Sysák, PhD., MBA</p>												
<p><b>Last change:</b> 29.11.2022</p>												
<p><b>Approved by:</b></p>												

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.GPK1/L-S-VLa-016/20	<b>Course title:</b> Gynaecology and Obstetrics 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 35s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.GPK1/L-S-VLa-015/20 - Gynaecology and Obstetrics 1	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - Etiology, diagnosis and treatment of sterility and infertility - Etiology, diagnosis, clinical course and treatment of urogynaecological diseases - Etiology, diagnosis, clinical course and treatment of female genital tract tumors - Etiology, diagnosis, clinical course and treatment of child and adolescenta gynaecological diseases - Theoretical knowledge about basi gynaecological and obstetric surgicalal procedures - Pathological pregnancy, labour and puerperium - Birth injuries – clasification, managment and complication <b>Skills:</b> - Assist by the physiological labour - Basic examination of patient with urogynaecological diseases - Basic examination of patient with female oncological disease - Basic examination of the gynaecological child or adolescent patient - Basic interpretation of oncytology (PAP smear) - Assit by small gynaecological surgeries (curettage, conisation, termination of pregnancy/ evacuation of uterine cavity after incomplete I.trimester abortion)	
<b>Class syllabus:</b> <b>Gynaecology:</b> - Endometriosis - Female genital tract tumors - Breast diseases - Iregular positions of female genital organs	

- Infertile couple
- Child and adolescent gynaecology
- Gynaecological urology / urogynaecology
- Emergencies in gynaecology
- Basic gynaecology surgeries

**Obstetrics:**

- Irregular positions of fetus
- Irregularities of birth mechanism, deflexion of the fetus head
- Emergencies from side of fetus during the labour
- Irregularities of the III. stage of the labour
- Birth injuries
- Pathology of puerperium
- Emergencies in obstetrics / Maternal deaths
- Basic obstetric surgeries

**Recommended literature:**

7. Monga, A. et al.: Gynecology by ten Teachers. 19th ed. Oxford University Press, 2011. 224 p. ISBN 978-0340983546
8. Baker, P.N. et al.: Obstetrics by ten Teachers. 19th ed. Oxford University Press, 2011. 352 p. ISBN 978-0340983539
9. Rob, L. a kol.: Gynekologie. 3. dopl. a přeprac. vyd. Praha: Galén, 2019, 356 s. ISBN 978-80-7492-426-2
10. Šuška, P. a kol.: Vybrané kapitoly z gynekológie. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2017. 314 s. ISBN 978-80-223-4279-7
11. Hájek, Z. a kol. Porodnictví. 3. zcela dopl. a přeprac. vyd. Praha: Grada, 2014. 580 s. ISBN 978-80-247-4529-9
12. Holomáň, K. a kol.: Vybrané kapitoly z pôrodnictva. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2014. 344 s. ISBN 978-80-223-3579-9

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 514

A	B	C	D	E	FX
98,25	1,75	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Miroslav Borovský, CSc., doc. MUDr. Peter Štencl, CSc., doc. MUDr. Miroslav Korbel', CSc., doc. MUDr. Martin Redecha, PhD., prof. MUDr. Kamil Pohlodek, PhD., MPH, doc. MUDr. Martin Šimko, PhD., prof. MUDr. Pavel Šuška, PhD., doc. MUDr. Ivan Hollý, CSc., prof. MUDr. Jozef Záhumenský, PhD., doc. MUDr. Rastislav Sysák, PhD., MBA

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.GPK1/L-S-VLa-017/19	<b>Course title:</b> Gynaecology and Obstetrics 3
<b>Educational activities:</b> <b>Type of activities:</b> seminar / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 18s / 54s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.GPK1/L-S-VLa-016/20 - Gynaecology and Obstetrics 2	
<b>Course requirements:</b> - 100% attendance on practicals and seminars State exam - practical part – administration of the medical report, taking history, examination of the patient, 2 additional practical questions - theoretical part: 3 questions (in diferent topics of gynaecology and obstetrics)	
<b>Learning outcomes:</b> <b>Knowledge:</b> - theoretical knowledge about diferential diagnosis and management of emergencies in gynaecology and obstetricsa - theoretical knowledge about maternofetal medicine - basics in diferential diagnosis in gynaecology - theoretical basics in radiological methods used in gynaecology and obstetrics - the problems of marginal medical specialisation in the the relation to the gynaecology and obstetrics - ethical aspects in gynaecology and obstetricsa - management and resuscitation of newborn <b>Skills:</b> - improvement in the assistance by the gynaecological and obstetrical surgeries - basic interpretation of the radiological findings in gynaecology and obstetrics - improvement in gynaecological and obstetrical propedeutics - management and resuscitation of newborn	
<b>Class syllabus:</b> During the practicals before the state exams medical students act as secondary doctors at the department. The aim is their improvement if the gynaecological and obstetrical propedeutics, diferential diagnosis, management of patient – conservative and surgical way of management in gynaecology and obstetrics. The advanced radiological methods used in gynaecology and obstetrics are demonstrated. Medical students assisst at the operation theatre at gynaecological	

and obstetrical surgeries. They attend on the day-to-day practice on the outpatient department and acquire knowledge in the subspecialised fields of gynaecology and onstetrics.

**Recommended literature:**

Monga, A. et al.: Gynecology by ten Teachers. 19th ed. Oxford University Press, 2011. 224 p. ISBN 978-0340983546

Baker, P.N. et al.: Obstetrics by ten Teachers. 19th ed. Oxford University Press, 2011. 352 p. ISBN 978-0340983539

Rob, L. a kol.: Gynekologie. 3. dopl. a přeprac. vyd. Praha: Galén, 2019, 356 s. ISBN 978-80-7492-426-2

Šuška, P. a kol.: Vybrané kapitoly z gynekológie. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2017. 314 s. ISBN 978-80-223-4279-7

Hájek, Z. a kol. Porodnictví. 3. zcela dopl. a přeprac. vyd. Praha: Grada, 2014. 580 s. ISBN 978-80-247-4529-9

Holomáň, K. a kol.: Vybrané kapitoly z pôrodnictva. 3. preprac. a dopl. vyd. Bratislava: Univerzita Komenského, 2014. 344 s. ISBN 978-80-223-3579-9

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 510

A	B	C	D	E	FX
84,9	9,61	3,92	1,37	0,2	0,0

**Lecturers:** prof. MUDr. Miroslav Borovský, CSc., doc. MUDr. Rastislav Sysák, PhD., MBA, doc. MUDr. Peter Štencl, CSc., doc. MUDr. Miroslav Korbeľ, CSc., doc. MUDr. Martin Redecha, PhD., prof. MUDr. Kamil Pohlodek, PhD., MPH, prof. MUDr. Pavel Šuška, PhD., doc. MUDr. Ivan Hollý, CSc., prof. MUDr. Jozef Záhumenský, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚHE/L-S-VLa-018/16	<b>Course title:</b> Histology and Embryology 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 28s / 38s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 6	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% participation in practical exercises, - study via a light microscope and draw all tissues of the specimens, - pass 2 partial tests (at least 70%), in case of failure of partial tests pass the credit test (at least 70%) <b>Final evaluation of the course:</b> - based on active attendance at practicals and success in partial tests or credit test	
<b>Learning outcomes:</b> Knowledge: To know a microscopic anatomy at the level of cytology and general histology. Skills: To know special histological techniques and to be able to apply them. To know the Slovak and Latin nomenclature of structures and tissues of the human body. Analyze the acquired knowledge from a morphological and functional point of view at the microscopic level. Be able to recognize individual structures and tissues and define their function. Know the use of this knowledge in clinical medicine.	
<b>Class syllabus:</b> <b>Lectures:</b> Introduction to the study of histology, definition of terms, overview of history and methods of these disciplines. Histological techniques, different types of microscopes and their use in medicine. Cell science. The relationship between cell function and structure. Development, microscopic structure and histophysiology of all tissue types and their structures. Tissue regeneration. <b>Practical exercises:</b> Light microscope, basics of histological technique, basic staining methods, histochemical methods, electron microscopic methods, immunohistological methods, cultivation technique. Microscopic study of the cell at the level of light microscopy. Ultrastructural cell. Introduction to tissues. Microscopic study of covering and lining epithelia, their localization. Microscopic study of glandular epithelium and their localization. Supportive and connective tissue. Microscopic study of various types of ligaments, cartilage and bone, their localization. Intramembranous and chondrogenic ossification. Microscopic study of blood elements, blood smear. Differential blood count. Microscopic study of different types of muscle tissue and their localization. Microscopic study of nerve tissue. Microscopic study of the cardiovascular system.	

**Recommended literature:**

Mescher, A.L. Junqueira's Basic Histology. Text and Atlas, 15th Ed, McGraw-Hill Medical Books, 2018, ISBN: 1260026175, 576 p.

Balko, J. et al. Memorix Histology. 1st ed. Triton, 2018, ISBN: 9788075535771, 584 p.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 1453

A	B	C	D	E	FX
20,23	13,7	23,33	15,49	25,74	1,51

**Lecturers:** prof. RNDr. Ivan Varga, PhD., MUDr. Paulína Gálfiová, PhD., MVDr. Ján Líška, CSc., MUDr. Mgr. Michal Miko, PhD., MUDr. Renáta Mikušová, PhD., MUDr. Simona Polakovičová, PhD., MUDr. Vanda Rísová, PhD., Mgr. Michaela Vrabcová, PhD., RNDr. Mária Kleinová, PhD., Mgr. Miroslava Juríková, PhD., MUDr. Martin Klein, PhD., MUDr. Mária Lorencová, PhD., MUDr. Abdolreza Majidi, doc. RNDr. Marianna Danková, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚHE/L-S-VLa-019/17	<b>Course title:</b> Histology and Embryology 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 28s / 38s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 7	
<b>Recommended semester:</b> 3.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚHE/L-S-VLa-018/16 - Histology and Embryology 1	
<b>Course requirements:</b> - 100% participation in practical exercises, - study via a light microscope and draw all tissues of the specimens, - pass 2 partial tests (at least 70%), in case of failure of partial tests pass the credit test (at least 70%) <b>Final exam:</b> - practical part: evaluation of 10 histological specimens (identify at least 7 specimens), - theoretical part: 3 questions (general histology & cytology, microscopic structure of organs, embryology)	
<b>Learning outcomes:</b> <b>Knowledge:</b> To know the microscopic structure of organs and systems. To know the development of human tissues and organs from fertilization to the birth. <b>Skills:</b> To know the Slovak and Latin nomenclature of structures and tissues of human body organs. Analyze the acquired knowledge from a morphological and functional point of view at the microscopic level. Be able to recognize individual structures, tissues and organs and define their function. To know the use of this knowledge in clinical medicine.	
<b>Class syllabus:</b> <b>Histology:</b> <b>Lectures:</b> Microscopic structure and histophysiology of individual systems and their organs. <b>Practical exercises:</b> Microscopic study of selected organs and structures of individual systems. <b>Embryology:</b> <b>Lectures:</b> Functional histology of the female and male reproductive system. Embryo development. Development and developmental anomalies of individual organs and fetal systems. Teratology. Signs of fetus delivery. <b>Practical exercise:</b> Microscopic study of selected organs and structures of the embryo and fetus.	

**Recommended literature:**

Histology:

Mescher, A.L. Junqueira's Basic Histology. Text and Atlas, 15th Ed, McGraw-Hill Medical Books, 2018, ISBN: 1260026175, 576 p.

Balko, J. et al. Memorix Histology. 1st ed. Triton, 2018, ISBN: 9788075535771, 584 p.

Embryology:

Sadler, T. W. Langman's Medical Embryology, 14th Ed, Lippincott Raven, 2018, ISBN 1496383907, 456 p.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 1121

A	B	C	D	E	FX
16,59	14,27	20,34	16,59	15,34	16,86

**Lecturers:** prof. RNDr. Ivan Varga, PhD., MUDr. Paulína Gálfiová, PhD., MVDr. Ján Líška, CSc., MUDr. Renáta Mikušová, PhD., MUDr. Simona Polakovičová, PhD., MUDr. Vanda Rísová, PhD., MUDr. Mgr. Michal Miko, PhD., MUDr. Mária Lorencová, PhD., doc. RNDr. Marianna Danková, PhD., RNDr. Mária Kleinová, PhD., Mgr. Michaela Vrabcová, PhD., Mgr. Miroslava Juríková, PhD., MUDr. Martin Klein, PhD.

**Last change:** 30.11.2022**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-126/19	<b>Course title:</b> History of Medicine in Slovakia
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 90% attendance at the lectures Final exam: test Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> The aim is to give and get an overview of the history of medicine in the territory of nowadays Slovak Republic from the oldest times to the present day. The aim is to show the specifics of the development in this region and put them into a wider context of European history of medicine. As in the Middle Ages, in the New Age and in the youngest periods, the lectured information will oscillate around the scheme: institutions – personalities – knowledge . In this way the students will be able to get an overview of medieval, modern and modern physicians that worked in this region, of the origins and development of institutionalized medical and social care as well as medical science on the territory of Slovakia. Goal of the subject is also to show the students that medicine does not stand as science alone so they will gain a general background in the history of thinking and society. Lectures are strictly interdisciplinary and will be conducted interactively <b>Skills:</b> As practical skills could be mentioned work with historical sources, with scientific literature, their criticism and interpretation.	
<b>Class syllabus:</b> 1. Introduction to the subject, organizational meeting. 2. Characteristics and interpretation of historical sources, basic chronology and terminology 3. The ancient times in Slovakia, Romans and barbarians, the possibilities of the research of the history of medicine 4. The beginning of the Middle Ages and medicine on the territory of Slovakia, orders, monasteries and xenodochia.	

5. Medieval university medicine, its first manifestations and personalities within the territory of Slovakia.
6. Personalities of Slovak humanism.
7. Specifics of development in Slovakia, Hungary and wider contexts.
8. The expansion of medical knowledge in the Early Modern Period.
9. Slovak physicians and medicine in the 19th century.
10. Faculty of Medicine of the Comenius University in Bratislava, faculties in Košice and Martin.
11. Social and political changes of the 20th century and their impact on doctors and medicine.
12. Summation of the subject, first term of exam

**Recommended literature:**

- BOWERS, Barbara S. (ed.). The Medieval Hospital and Medical Practice. London 2007.
- DUIN, Nancy – SUTCLIFFE, Jenny. A History of Medicine: from Prehistory to the year 2020. London; New York 1992.
- PORTER, Roy (ed.). The Cambridge History of Medicine. Oxford 1962.
- PRIORESCHI, Plinio. A History of Medicine, vol. IV: Byzantine and Islamic Medicine. Omaha 2001.
- PRIORESCHI, Plinio. A History of Medicine, vol. V: Medieval Medicine. Omaha 2003.
- SIRAI, Nancy G. Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice. Chicago 2009.
- FALISOVÁ, Anna: Lekári na Slovensku do roku 2000. Bratislava 2010.
- JUNAS, Ján. Prehľad dejín lekárstva. Bratislava 1975.
- JUNAS, Ján – BOKESOVÁ-UHEROVÁ, M.: Dejiny medicíny a zdravotníctva. Martin 1985.
- PAVLÍKOVÁ, Ľudmila. Dejiny medicíny a zdravotníctva ako vedný odbor a učebný predmet na lekárske fakultách. In MARSINA, Richard (ed.). Studia historica Tyrnaviensia II. Trnava 2002, p. 63 – 67.
- SEDLÁČKOVÁ, Eulália – HLÁVKOVÁ, Zdena. Sprievodca dejinami medicíny. Bratislava 1995.
- MAJOROSSY, Judit – SZENDE, Katalin: Hospitals in Medieval and Early Modern Hungary. In SCHEUTZ, Martin (ed.). Europäisches Spitalwesen : institutionelle Fürsorge in Mittelalter und früher Neuzeit. Wien - München 2008, p. 409–454.
- BENIAK, Milan - TICHÝ, Miloš: Dejiny Lekárskej fakulty Univerzity Komenského v Bratislave. 1. časť. Bratislava 1992.
- PARK, Katharine: Medicine and Society in Medieval Europe, 500–1500. In: Medicine in Society: Historical Essays. Cambridge 1992, p. 59–90.
- GRMEK, Mirko D. (ed.): Western Medical Thought from Antiquity to the Middle Ages. Translated by Antony Shugaar. Cambridge 1998.

**Languages necessary to complete the course:**

**Notes:**

**Past grade distribution**

Total number of evaluated students: 52

A	B	C	D	E	FX
42,31	11,54	34,62	7,69	3,85	0,0

**Lecturers:** Mgr. Adam Mesiarkin, PhD.

**Last change:** 20.10.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚH/L-S-VLa-020/19	<b>Course title:</b> Hygiene
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPF/L-S-VLa-057/18 - Pathological Physiology 2 and LF.ÚPA/L-S-VLa-055/18 - Pathological Anatomy 2	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) Final exam: - oral exam: 3 question (environmental factors and health, nutrition and primary prevention, occupational hygiene) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: - on the environmental impact on the population health status - on the health protection and health promotion of the population and the individual - on the principles of disease prevention - on basic law in this area Skills: - to control the basic methods of monitoring of internal and external environmental factor and the health status of population groups - to examine the nutritional status and formulate the necessary corrections in order to protect the health and to prevent diseases of individuals and population groups - to communicate with the public on environmental, behavioral and psychosocial factors and health at an appropriate level - to cooperate with public health managers - to work independently in the field of consulting - ability to implement the obtained results into the practice of a general practitioner and/or pediatrician	
<b>Class syllabus:</b>	

Living conditions and health. Education, training, lifestyle in relation to health. The environment and its chemical, physical, biological and psychosocial factors. Indoor and outdoor air pollution and morbidity. Water and morbidity. Hazardous waste. Health risks of ionizing and non-ionizing radiation. Environmental noise. Urbanization and housing in relation to health. Nutritional health risks. Unconventional nutrition. Self-assessment of nutrition and nutritional status. Public health advisories. Xenobiotics. Environmental factors in relation to infectious diseases. Environment, lifestyle and chronic diseases. Basics of psychohygiene. Alcoholism, drug addiction and prevention. Age and physiological peculiarities in primary prevention. Hygiene of the educational process. Environmental risks of children and young people. Work and health, risk factors. Physical and biological factors in the work environment. Toxic substances in the work environment. Work-related health damage, categorization of workplaces. Work and rest regime and occupational diseases prevention. Hospital hygiene, outpatient facilities and inpatient treatment units. Nosocomial infections. Hygiene documentation, current law. Health risk assessment and health impact assessment. The role of hygiene in disasters (natural and technological disasters, war conflicts, epidemics), problems of alternative accommodation, water supply, nutrition.

**Recommended literature:**

Ševčíková Ľ. and contributors: Hygiene – Environmental Medicine. Bratislava: Comenius University, 2011. 322 s. ISBN 978-80-223-2900-2.

Ševčíková Ľ. and contributors: Environmental Health – Hygiene. Bratislava: Comenius University, 2015. 253 s. ISBN 978-80-223-3930-8

Babjaková J., Sekretár S. Nutrition and Food Safety in Public Health. Bratislava: Comenius University, 2015. 136 p. ISBN 978-80-223-3932-2.

Fabiánová, E., Bátor, I. Occupational Health and Toxicology. 1st Ed. Bratislava: Comenius University, 2015. 146 p. ISBN 978-80-223-3931-5.

Bencko, V. et al. Hygiene and Epidemiology. Selected chapters. Praha: Karolinum, 2020. 238 p. ISBN 978-80-246-4306-9

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 601

A	B	C	D	E	FX
51,75	28,45	13,81	4,83	1,16	0,0

**Lecturers:** prof. MUDr. Jana Jurkovičová, CSc., prof. MUDr. Ľubica Argalášová, PhD., MUDr. Jana Babjaková, PhD., MPH, Mgr. Alexandra Filová, PhD., RNDr. Diana Vondrová, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S-VLa-169/19	<b>Course title:</b> Imaging methods in medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Continuously: - Active participation in lectures – weight 0.1 - Passing continuous written tests (at least 60 %) – weight 0.2 Final exam: - Passing the final written test (at least 60 %) - weight 0.4 - Oral exam - presentation of the selected topic - weight 0.3 Test rating: A: 91 % – 100 %, B: 81 % – 90 %, C: 73 % – 80 %, D: 66 % – 72 %, E: 60 % – 65 %, Fx: 59 % - 0 %. The overall rating is determined from the weighted average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: Upon successful completion of the course, students should be familiar with the physical principles of image creation in medicine as a diagnostic tool focusing on digital methods including physical effects of external factors on the body. Skills: Ability to determine the suitability of using the selected imaging method for a particular patient in terms of the usefulness of the information obtained and patient safety.	
<b>Class syllabus:</b> Physical principles of radiation, radiation dosimetry, radiation detection, protection against ionizing radiation, safety regulations. X-ray imaging methods - sources and properties of radiation, X-ray interaction with matter, image creation and imaging systems, skiagraphy, fluoroscopy, digital radiography, computed tomography, artifacts, application. Imaging methods using radionuclides - sources and properties of radiation, interaction of radiation with matter and its detection, preparation of radionuclides, labelling, image creation and imaging systems, positron emission tomography, single photon emission computed tomography, artifacts, application. Magnetic resonance imaging - physical principles of nuclear magnetic resonance, image creation and imaging systems, artifacts, application.	

Ultrasound imaging methods - sources and properties of ultrasound, interaction with matter, ultrasound detection, image creation and imaging systems, probes, modes, artifacts, Doppler phenomenon, Doppler systems, application.

Optical and optoelectric diagnostic methods - physical principles of methods, light reflection and refraction, light sources and properties, image creation and imaging systems, light and electron microscopy, atomic force microscopy, optical coherent tomography, endoscopy, artifacts, application.

Thermometry and thermography - infrared radiation, physical principles, properties and sources, liquid crystals, image creation and imaging systems, artifacts, application.

**Recommended literature:**

Allisy-Roberts, P., Williams, J. Farr's Physics for Medical Imaging. Edinburgh : Saunders - Elsevier, 2008, 207 p. ISBN 978-0-7020-2844-1

Webster J. G. (ed.) Medical Instrumentation. Application and Design. New York : John Wiley&Sons, Inc., 2010 (4th edition). 675 p. ISBN 978-0471-67600-3 – selected parts

Kúš P. a spol. Moderná mikroskopia a digitálne spracovanie obrazu. Bratislava : FMFI UK, 2008. 125 s. ISBN: 978-80-89186-37-2 – selected parts

Hrazdira, I., Moernstein, V., Škorpíková, J. Lékařská biofyzika a přístrojová technika. Brno : Neptun, 2006. 309 s. ISBN 80-86850-01-3 – selected parts

Holá, O., Holý, K. Radiačná ochrana. Ionizujúce žiarenie, jeho účinky a ochrana pred ionizujúcim žiarením. Bratislava : STU, 2010. 200 s. ISBN 978-80-227-3240-6 – selected parts.

Lectures on portal Mefanet – section Biophysics (<http://portal.fmed.uniba.sk/>)

Additional e-course ([www.moja.uniba.sk](http://www.moja.uniba.sk))

Other available innovated literary and internet sources.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 17

A	B	C	D	E	FX
41,18	47,06	0,0	5,88	5,88	0,0

**Lecturers:** doc. RNDr. Mgr. Katarína Kozlíková, CSc.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IÚ/L-S-VLa-092/22	<b>Course title:</b> Immunology
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 37s / 19s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 5	
<b>Recommended semester:</b> 5.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100 % participation on the practical exercises Passing 2 written tests (each with at least 60 %) Passing final test from practicals: with at least 60 % Examination: Written part: test Test evaluation: A: 91 – 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: less than 59 % Oral part: the student answers 3 questions (from basic immunology: 2 questions; from clinical immunology: 1 question)	
<b>Learning outcomes:</b> <b>Knowledge:</b> After completing the course, the student will receive: 1. knowledge of general and clinical immunology; knowledge of innate and adaptive T-cell and antibody immunity, inflammation, cytokines, the development of the immune response and the fundamental role of cells and humoral immune factors in the immunopathogenesis of diseases. 2. knowledge of transplant immunology, autoimmune diseases, hypersensitivity reactions, allergies, anti-infective immunity, vaccinations, immunodeficiencies, anti-tumor immunity and pregnancy immunology. 3. a comprehensive view of immunity as part of the psycho-neuro-endocrine system of the body. 4. acquires knowledge about the examination of the individual's immune profile and basic knowledge about the immunodiagnostics of immunodeficiencies and, in part, immunopathological processes. <b>Skills:</b> 1. Know the clinical symptoms of allergies, the difference between atopy, anaphylaxis. Recognizes the manifestations of allergic diseases, anaphylactic, anaphylactoid shock, and serum sickness. 2. Knows the manifestations of basic congenital immunodeficiency conditions, their diagnosis, and treatment.	

3. He knows when and what material to take for immunological examination, he knows the basic methods for examining the immune profile of immunocompromised patients.
4. He should be able to interpret the results of basic immunological tests.

**Class syllabus:**

## Lectures:

Milestones in the development of immunology. Immune system, definition, structure and function; tissues, organs, cells and humoral factors of immunity. Forms of immunity. Properties of innate and adaptive immunity. Organs and tissues of the immune system. Antigen. Antigen, its characteristics and properties. B-lymphocytes, plasma cells and antibodies. Basics of antibody production. Immunoglobulins, structure, their classes and subclasses. Domains, constant and variable sections, modules. Antibody binding site. Primary and secondary antibody response. Function of individual classes of immunoglobulins. Antibody genetics. Hybridomas and monoclonal antibodies. Complement system. Classical, alternative and lectin activation pathway. Vasoactive and chemotactic effects of complement. Regulatory proteins and receptors of the complement system. Biological significance of the complement system. Complement disorders, hereditary angioedema. Acute phase proteins. Humoral and cellular indicators of inflammation. Phagocytosis and professional phagocytes. Phases of phagocytosis and killing mechanisms of phagocytes. Netosis. Origin, differentiation, types and subpopulations of macrophages and their significance. Pathogen associated molecular patterns (PAMPs) and danger associated molecular patterns (DAMPs) and their recognition by pattern recognition receptors (PRR). Infectious (sepsis) and non-infectious inflammation. Membrane antigens. The most important membrane antigens of individual populations of immune system cells and their significance. T-lymphocytes, NK-, NKT-, ILC- and MAIT- cells. Origin and differentiation of T-lymphocytes. Characteristics and properties of T-lymphocytes. T-cell antigen receptor. T cell subpopulations. NK- and NKT -cells, their receptors and mechanism of their action. Natural and induced regulatory T cells. HLA-complex and its biological and medical significance. Gene map of the HLA-complex. Distribution and inheritance of HLA-molecules. HLA-molecules, biochemical structure and biological function. HLA-G as a checkpoint molecule. Presentation of antigens. Endogenous and exogenous pathways of protein antigen presentation. Presentation of lipid antigens. Cell cooperation in the immune response. Apoptosis. Cytokines. General properties of cytokines. Cytokines and their role in psycho-neuro-endocrine regulation. Role of sympathetic and parasympathetic nerve system in immune modulation. Cytokines regulating innate and adaptive immunity. The role of cytokines in the development and polarization of the immune response. Th1, Th2, Th5, Th9 and Th17 lymphocytes and their role in immunity. Pro-inflammatory cytokines and cytokines with anti-inflammatory and immunosuppressive activity. Cytokines stimulating hematopoiesis, chemokines. Immune tolerance. T-cell differentiation in the thymus; dominant and recessive tolerance. Autoimmunity. Mechanisms leading to the development of autoimmunity. Autoantigens. Genetic and hormonal predisposition to the development of autoimmune processes. Pathogenetic mechanisms of autoimmune processes. Diagnostic possibilities and immunotherapy. Autoinflammatory diseases. Hypersensitivity reactions types I-V. Immunopathogenesis of hypersensitivity conditions, classification. Type I of hypersensitivity reactions. Allergies, atopy, anaphylaxis. Diagnosis, therapy and prevention. Anaphylactic and anaphylactoid shock - symptoms and treatment. Type II of hypersensitivity reactions. ABO incompatible blood transfusions, Rh-incompatibility, drug reactions. Type III of hypersensitivity reactions. Immunocomplex inflammation. Serum sickness, Arthus reaction. Type IV of hypersensitivity reactions. Tuberculin reaction. Contact dermatitis. Granulomas. Type V. hypersensitivity reactions. Tumors and the immune system. Immunology of cancer. Immunoediting. The mechanisms of the escape of malignant cells from the reach of effector mechanisms of the immune system. Metastatic process. Immunodiagnosics and immunotherapy of tumors. Tissue, organ and stem cells transplantation. Nomenclature of transplants. HvG, GvH,

GvL reactions, selection of donor-recipient pairs, immunosuppression. Immunology of human reproduction. Immune response during physiological pregnancy. Embryo implantation. Immune system in fetal development. Immune system in the pathology of pregnancy. Immune system of the fetus, newborn and infant. Immune system of a woman's urogenital tract. Aging and immunity. Primary and secondary immunodeficiencies. General manifestations of immunodeficiencies, occurrence, division. Immunodeficient conditions with a predominance of antibody disorders, and cellular immunity. Autoimmune polyglandular syndrome (APS). Combined immunodeficiencies. Deficiency of components of the complement system. Disorders of phagocytosis. AIDS. Immunotherapy and immunoprevention. Immunostimulants, immunosuppressants, monoclonal antibodies, cytokines, enzyme therapy, vaccines, stem cell therapy.

#### Practicals:

Specimen collection and delivery for immunology testing. Methods based on antibody - antigen interactions. Classical serological techniques: agglutination (blood group typing), precipitation, immunoelectrophoresis, immunodiffusion techniques and nephelometry, turbidimetry. Progressive serology methods: ELISA, RIA, immunoblotting, immunofluorescence, chemiluminescence, immunochromatography (detection of antibodies against H. pylori, pregnancy rapid test). Laboratory diagnosis of SARS-CoV-2 infection – antigen and antibody tests, LAMP test. Evaluation of innate humoral immunity: Total complement activity assays (CH50, AH50). Evaluation of individual complement components (RID, turbidimetry and nefelometry). Determination of acute phase proteins (CRP-determination from capillary blood by reflectometry). Case study – hereditary angioedema and anaphylactoid shock. Evaluation of innate cellular immunity components: Isolation of leukocytes from peripheral blood, enumeration of neutrophils. Functional analysis of neutrophils - chemotactic activity, phagocytic activity and phagocytic index, microbicidal activity, metabolic activation (NBT test). Case study - chronic granulomatous disease. Evaluation of adaptive humoral and cellular immunity component: Isolation of lymphocytes. Separation of T cell subpopulations and evaluation of the number of T and B cells and their subsets (flow cytometry, FACS, MACS). Evaluation of the function of T and B cells (blastic transformation assay, determination of the levels of immunoglobulins and specific antibodies). Immunoskin tests. Diagnostics of infectious diseases based on lymphocyte activation (IGRA – principle, casuistic of tuberculosis). Laboratory methods used in transplantation immunology – HLA-typing. Serologic methods: microlymphocytotoxicity assay. Cellular methods: MLC (mixed lymphocyte culture). DNA-based methods: PCR –SSP. Video-presentation explaining DNA-based HLA-typing. Diagnostics of allergic diseases: atopy and anaphylaxis, clinical symptomatology. Anaphylactic shock – symptomatology and therapy, EpiPen demonstration. Skin tests: prick test, scarification test, intradermal skin test, epidermal test. Determination of total and allergen-specific IgE levels. Basophil-degranulation test, CD63 basophil counts. Case studies: of allergic diseases, anaphylactic shock, Arthus reaction and a serum sickness. Laboratory methods used in the diagnostics of autoimmune disorders. Determination of acute phase proteins, levels of immunoglobulins, total complement level, C3, C4 complement levels, CD4/CD8 ratio, detection of autoantibodies, determination of circulating immune complexes. Casuistic: Autoimmune polyglandular syndromes (APSII and IV). Practical experiment - rheumatoid factor determination by latex agglutination. Diagnostics of tumour processes (CRP, oncomarkers, immunophenotyping, immunohistochemistry). Laboratory diagnosis of HIV infection (ELISA, Western blot, CD4+ T cell counts, virus load). Laboratory assessment of the immune status – overview: evaluation of innate and acquired immunity – summary, differential blood cell counting, inflammatory markers, diagnostics of infectious diseases. Case studies, and how to solve the problem. Immunocompromised patient.

#### **Recommended literature:**

Obligatory textbooks:

1. Buc M. Basic and Clinical Immunology. 5th ed. Bratislava: Comenius University 2020, 554 pp.
  2. Shawkatová I. et al. Laboratory Methods in Immunology, Bratislava: Comenius University 2014, 128 pp.
  3. Video-presentations of lecturers.
- Recommended textbooks:
1. Abbas AK, Lichtman, AH, Pillai S: Cellular and Molecular Immunology. 9th ed. New York: Elsevier 2022, 565 pp. (internet edition available too)
  2. Chapel H, Haeney M, Misbah S, Snowden N.: Essentials of Clinical Immunology. Willey Oxford: Blackwell 2014, 365 pp.

**Languages necessary to complete the course:**  
english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 250

A	B	C	D	E	FX
3,2	22,8	37,2	17,2	16,4	3,2

**Lecturers:** prof. MUDr. Milan Buc, DrSc., doc. MUDr. Mária Bucová, CSc., doc. RNDr. Vladimíra Ďurmanová, PhD., doc. Mgr. Ivana Shawkatová, PhD., MUDr. Monika Homolová, PhD., MUDr. Juraj Javor, PhD., MUDr. Zuzana Párnická, PhD., MUDr. Magda Suchánková, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KIGM/L-S-VLa-028/20	<b>Course title:</b> Infectology
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9., 10..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.NK1/L-S-VLa-048/19 - Neurology 2	
<b>Course requirements:</b> 100 % attendance during practicals - elaboration and report of seminar work - written and oral report of patient's case <b>Exam:</b> - written part – test ( minimum 60 % ) - oral part – 2 questions Test evaluation: A: 91 – 100%, B: 81 – 90%, C: 73 – 80%, D: 66 – 72%, E: 60 – 65% Fx: 59% and less The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: general overview of the clinical presentation, diagnosis, differential diagnosis, treatment and prevention of most important infectious diseases. Basics of antibiotic stewardship. Skills: Differential diagnostics of most important syndromes in infectology (e.g. meningitis, diarrhoea, fever in travellers, fever of unknown origin). The ability to develop an optimal algorithm for the diagnosis of infectious diseases, the ability to indicate invasive and non-invasive procedures in differential diagnostics of infectious diseases. The ability to evaluate the blood smear to diagnose malaria and microscopic examination of stool for parasitological examination. The ability to indicate empiric and targeted antibiotic, antiviral and antiparasitic treatment.	
<b>Class syllabus:</b> Pathogen-host interaction, the course of infectious diseases, haematological and biochemical changes in infectious diseases. Peculiarities of infectious diseases in special situations and age groups. Practical exercises and internships include seminars, demonstrations of selected case reports on a large screen, demonstrations of nosological and syndromological units at the patient's bedside, demonstrations and practical demonstrations of selected laboratory tests (blood tests, urine, cerebrospinal fluid, malaria blood smear).	
<b>Recommended literature:</b>	

Infectious Diseases a Clinical Short Course. 4th edition. McGraw-Hill. 2020.496 p. ISBN 9781259095207  
 Infectious diseases. Jiřina Hobstova (ed.) Charles University in Prague – Karolinum Press 2012. 246 p.  
 SL Gorbach, M. Falagas. The 5-Minute Infectious Diseases Consult.2ND Edition. London. Lippincott Williams & Wilkins. 2012. 519 p.  
 Selected questions from the chapters in the textbook Harison´s. Principles of Internal Medicine, 19th edition. McGraw-Hill Companies, 2013 Principles of Internal Medicine.  
 Selected questions from the chapters in the textbook Mandell, Douglas and Bennett. Principles and Practice of Infectious Diseases. Seventh edition. Churchill Livingstone, Philadelphia 2015. 3904

**Languages necessary to complete the course:**

English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 502

A	B	C	D	E	FX
59,16	26,1	8,96	3,78	1,59	0,4

**Lecturers:** doc. MUDr. Igor Stankovič, CSc., doc. MUDr. Peter Sabaka, PhD., MUDr. Matej Bendžala, PhD., MUDr. Pavlína Bukovinová, PhD., MPH

**Last change:** 24.05.2024

**Approved by:**

## STATE EXAM DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK/L-VLa-ŠS-3/15	<b>Course title:</b> Internal Medicine
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>State exam syllabus:</b>	
<b>Last change:</b>	
<b>Approved by:</b>	

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK5/L-S-VLa-029/18	<b>Course title:</b> Internal Medicine 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 35s / 45s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK_1/L-S-VLa-035/18 - Internal Propedeutics	
<b>Course requirements:</b> 1/ Compulsory 100% attendance at the practicals. 2/ Pass the final credit written test (Evaluation of the test: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less). The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Cardiology – diseases pathophysiology, epidemiology and the impact of the diseases, basic signs and symptoms, diagnostics and differential diagnostics, basics of the prevention and treatment</li> <li>- Angiology – pathophysiology of the diseases of arteries, veins and lymphatic vessels, epidemiology and the impact of the diseases, basic signs and symptoms, diagnostics and differential diagnostics, basis of the prevention and treatment</li> <li>- ECG examination – improvement of the knowledge, basic pathological findings on ECG and their correlation with clinical condition</li> <li>- Examination methods and therapeutic interventions in cardiology and angiology</li> <li>- Improvement of the knowledge of the Internal propaedeutic</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Improvement of the skills when taking history and clinical examination</li> <li>- Individual examination of the patient with the cardiovascular diseases, elaboration of the patient’s medical record</li> <li>- Description of the physiological and pathological findings on the ECG</li> <li>- Description of the chest X-ray (heart and lungs)</li> <li>- Assistance by echocardiography and ergometry</li> <li>- Assistance by ultrasound examination of the vein system of the lower extremities Venepuncture, collection of venous and arterial blood, administration of i.v., i.m. and s.c. medication, measurement of blood pressure, pulse and body temperature</li> </ul>	
<b>Class syllabus:</b> Cardiovascular diseases (incidence, epidemiology, social status). Basic and special examinations in cardiology (ECG, chest X-ray, echocardiography, ergometry, coronarography, Holter-monitoring	

of blood pressure and ECG). Heart failure. Atherosclerosis. Atherosclerotic coronary heart disease. Acute coronary syndromes. Failure of peripheral circulation (shock, syncope). Acquired valvular dysfunctions. Myocarditis. Endocarditis. Pericarditis. Cardiomyopathy. Arrhythmias. Arterial hypertension. Peripheral vascular diseases. Aortic diseases. Neurocirculatory asthenia. Chronic vein disease. Thromboembolic disease (pulmonary embolism, phlebotrombosis)

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition. Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1  
 KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
 GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
 KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
 JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J. Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7  
 GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
 COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition. Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 792

A	B	C	D	E	FX
16,79	46,84	27,4	6,82	2,15	0,0

**Lecturers:** prof. MUDr. Stanislav Oravec, CSc., doc. MUDr. Jozef Bulas, CSc., prof. MUDr. Viera Štvrtinová, PhD., doc. MUDr. Soňa Kiňová, PhD., doc. MUDr. Ján Lietava, CSc., doc. MUDr. Ľudovít Lukáč, PhD., prof. MUDr. Ján Murín, CSc., doc. MUDr. Martin Čaprnda, PhD., doc. MUDr. Denisa Čelovská, PhD., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., doc. MUDr. Viliam Mojto, CSc., prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK5/L-S-VLa-030/19	<b>Course title:</b> Internal Medicine 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 31s / 35s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK5/L-S-VLa-029/18 - Internal Medicine 1	
<b>Course requirements:</b> 1/ Compulsory 100% attendance at the practicals. 2/ Pass the final credit written test (Evaluation of the test: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less). The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Pneumology – disease pathophysiology, epidemiology and the impact of the disease, signs and symptoms, diagnostics and differential diagnostics, basis of the prevention and treatment, including tuberculosis.s</li> <li>- Examinations and therapeutic interventions in pneumology.</li> <li>- Rheumatology - disease pathophysiology, epidemiology and the impact of the disease, signs and symptoms, diagnostics and differential diagnostics, basis of the prevention and treatment</li> <li>- Examinations and therapeutic interventions in rheumatology</li> <li>- Improvement of the knowledge of the Internal propaedeutic</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Improvement of the skills when taking history and of the patient’s clinical examination</li> <li>- Individual examination of the patient with respiratory tract disease, elaboration of the patient’s medical record</li> <li>- Individual examination of the patient with musculoskeletal disorder, elaboration of the patient’s medical record</li> <li>- Assistance by the pleural puncture, assistance in examination of lung volumes and flows, assistance by the bronchoscopy</li> <li>- Assistance by the application of inhalant drugs including oxygen</li> <li>- Assistance by the evaluation of X-ray of joints, assistance by DXA and its evaluation</li> <li>- Improvement of the skills in describing the ECG and chest X-ray</li> <li>- Venipuncture, collection of venous and arterial blood, administration of i.v., i.m. and s.c. medication, measurement of blood pressure, pulse and body temperature</li> </ul>	
<b>Class syllabus:</b>	

Diseases of the respiratory tract and lungs (incidence, social impact). Basic and special examinations in pneumology. Bronchial diseases. Chronic obstructive pulmonary disease. Bronchial asthma. Lung tumors. Pleural and Mediastinal diseases. Diagnostics and treatment of tuberculosis.

Diseases of joints, tendons and bones. Basic and special examinations in rheumatology. Rheumatoid arthritis. Lupus erythematosus. Scleroderma. Dermatomyositis. Periarthritis nodosa. Sjögren's syndrome. Gout. Polymyositis. Vasculitis. Osteoporosis and other metabolic diseases of bones.

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition.

Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia:

Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16

GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia:

Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16

JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J.

Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7

GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7

COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition.

Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 642

A	B	C	D	E	FX
25,08	45,02	21,03	6,39	2,49	0,0

**Lecturers:** doc. MUDr. Martin Čaprnda, PhD., doc. MUDr. Soňa Kiňová, PhD., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., doc. MUDr. Viliam Mojto, CSc., prof. MUDr. Peter Pont'uch, CSc., prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD., doc. MUDr. Martin Dúbrava, CSc., prof. MUDr. Silvester Krčméry, CSc., MUDr. Silvia Grančáková, MUDr. Rastislav Tahotný, PhD., MUDr. Marta Hájková, CSc., doc. MUDr. Štefan Urban, CSc.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK5/L-S-VLa-031/19	<b>Course title:</b> Internal Medicine 3
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 33s / 35s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK5/L-S-VLa-030/19 - Internal Medicine 2	
<b>Course requirements:</b> 1/ Compulsory 100% attendance at the practicals. 2/ Pass the final credit written test (Evaluation of the test: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less). The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Gastroenterology and hepatology - disease pathophysiology, epidemiology and the impact of the disease, basic signs and symptoms, diagnostics and differential diagnostics, basics of the prevention and treatment</li> <li>- Examinations and therapeutic interventions in gastroenterology and hepatology</li> <li>- Hematology - disease pathophysiology, epidemiology and the impact of the disease, basic signs and symptoms, diagnostics and differential diagnostics, basics of the prevention and treatment</li> <li>- Examinations and therapeutic interventions in haematology</li> <li>- Improvement of the knowledge of the Internal propaedeutic</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Improvement of the skills when taking history and of the patient's clinical examination</li> <li>- Individual examination of the patient with the gastrointestinal disease, elaboration of the patient's medical record</li> <li>- Digital rectal examination</li> <li>- Assistance by ascites puncture, liver puncture, gastrofibroscopy, colonoscopy, ERCP, ultrasound of the abdomen, nasogastric tube insertion</li> <li>- Individual examination of the patient with haematologic disease, elaboration of the patient's medical record</li> <li>- Assistance by the bone marrow puncture</li> <li>- Blood transfusion, examination before blood transfusion.</li> <li>- Improvement of the skills in describing the ECG and chest X-ray</li> <li>- Venipuncture, collection of venous and arterial blood, administration of i.v., i.m. and s.c. medication, measurement of blood pressure, pulse and body temperature</li> </ul>	

**Class syllabus:**

Diseases of gastrointestinal tract (epidemiology, social impact). Basic and special examinations in gastroenterology and hepatology. Oesophageal diseases. Diseases of stomach. Functional dyspepsia. Diseases of small intestine. Inflammatory bowel diseases. Diseases of colon. Gastrointestinal tumors. Diseases of gall-bladder and biliary tract. Liver diseases. Diseases of pancreas.

Anemia and anemic syndrome. Myelodysplastic syndrome. Myeloproliferative diseases. Hemocoagulation disorders. Leucopenias. Trombocytopenias. Acute and chronic leukemia. Lymphomas. Transfusion of blood products. Special examinations in hematology.

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition.

Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16

GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16

JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J.

Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7

GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7

COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition.

Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 647

A	B	C	D	E	FX
17,0	56,57	21,02	4,33	1,08	0,0

**Lecturers:** doc. MUDr. Martin Čaprnda, PhD., doc. MUDr. Soňa Kiňová, PhD., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., doc. MUDr. Viliam Mojto, CSc., prof. MUDr. Peter Pont'uch, CSc., prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD., doc. MUDr. Martin Dúbrava, CSc., prof. MUDr. Silvester Krčméry, CSc., MUDr. Silvia Grančáková, MUDr. Rastislav Tahotný, PhD., MUDr. Marta Hájková, CSc.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK_1/L-S-VLa-032/19	<b>Course title:</b> Internal Medicine 4
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 28s / 40s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 5	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK5/L-S-VLa-031/19 - Internal Medicine 3	
<b>Course requirements:</b> Compulsory 100% attendance at the practicals Pass the final written test (minimal score 60%) Evaluation of the test: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less Exam: - Successful completion of final written test (minimal score 60%) is required for the oral exam - Successful answer of 3 questions Total evaluation is determined from the average of received scores.	
<b>Learning outcomes:</b> Learning outcomes: Knowledge: - Basic knowledge from endocrinology and diabetology - disease pathophysiology, epidemiology and the impact of the disease, basic signs and symptoms, diagnostics and differential diagnostics, basics of the prevention and treatment - Auxiliary examinations and therapeutic interventions in endocrinology and diabetology - Basic knowledge from nephrology - disease pathophysiology, epidemiology and the impact of the disease, basic signs and symptoms, diagnostics and differential diagnostics, basics of the prevention and treatment - Auxiliary examinations and therapeutic interventions in nephrology - Improvement of the knowledge of the Internal propedeutics Skills: - Improvement of the skills when taking history and of the patient's clinical examination - Independent examination of the patient with the endocrinal disease and diabetes mellitus, elaboration of the patient's medical record - Assistance by ultrasound of the thyroid gland - Independent examination of the patient with kidney disease, elaboration of the patient's medical record - Catheterisation of urinary bladder	

- Improvement of the skills in describing the ECG and chest X-ray
- Venipuncture, collection of venous and arterial blood, administration of i.v., i.m. and s.c. medication, measurement of blood pressure, pulse and body temperature

**Class syllabus:**

Endocrinopathies (epidemiology, social impact). Diseases of hypophysis and hypothalamus. Pituitary tumors. Acromegaly and gigantism. Hyperprolactinemia. Pineal gland disorders. Syndrome of inappropriate secretion of ADH. Diabetes insipidus. Cushing's disease and syndrome. Addison's disease. Diseases of the adrenal medulla. Parathyroid diseases. Thyroid diseases (hyper- and hypothyroidism, thyroiditis, tumors of the thyroid gland). Testicular insufficiency. Tumors of testes. Ovarian insufficiency, ovarian tumors. Paraneoplastic endocrinopathies. Diabetes mellitus and its complications. Acute and chronic renal insufficiency. Extracorporeal elimination methods. Indications for dialysis and kidney transplantation. Acute and chronic glomerulonephritis. Nephrotic syndrome. Systemic diseases with renal manifestations. Infections of urinary tract. Interstitial nephritis. Urolithiasis. Polycystic kidneys. Renal dysfunctions by other metabolic diseases. Tumors of urogenital tract.

**Recommended literature:**

Kumar, P., Clark, M. Kumar and Clark's Clinical Medicine. Philadelphia: Saunders Ltd., 2012. 1352 s. ISBN-13: 978-0-7020-449-91  
 Longo, D, Fauci, A., Kasper, D., Hauser, S., Loscalzo J. Harrison's Principles of Internal Medicine 18th ed. New York: McGraw-Hill, 2011. 1796 pp. ISBN 978-0-07-163244-7  
 Goldman, L. et al. Goldman's Cecil medicine. Philadelphia: W.B.Saunders, 2012. 2569 s. ISBN 9781437716047  
 Colledge, N.R. et al. Davidson's Principles and Practice of Medicine. Edinburgh: Churchill Livingstone, 2010. 1376 pp. ISBN 978-0-7020-3085-7

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 351

A	B	C	D	E	FX
38,18	26,21	17,09	9,97	8,26	0,28

**Lecturers:** prof. MUDr. Stanislav Oravec, CSc., doc. MUDr. Jozef Bulas, CSc., doc. MUDr. Martin Čaprnda, PhD., prof. MUDr. Ľudovít Gašpar, CSc., prof. MUDr. Viera Štvrtinová, PhD., doc. MUDr. Soňa Kiňová, PhD., doc. MUDr. Ján Lietava, CSc., prof. MUDr. Ján Murín, CSc., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., doc. MUDr. Viliam Mojto, CSc., prof. MUDr. Peter Pont'uch, CSc., prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD., doc. MUDr. Martin Dúbrava, CSc., prof. MUDr. Silvester Krčméry, CSc.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK5/L-S-VLa-093/22	<b>Course title:</b> Internal Medicine 4
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 29s / 40s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 5	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK5/L-S-VLa-031/19 - Internal Medicine 3	
<b>Course requirements:</b> 1/ Compulsory 100% attendance at the practicals. 2/ Pass the final credit written test (Evaluation of the test: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less). Successfully passed test (minimal score 60%) is required for the admission to the oral part of the exam 3/ Pass the oral exam (successful answering of all questions). The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Endocrinology and diabetology - disease pathophysiology, epidemiology and the impact of the disease, basic signs and symptoms, diagnostics and differential diagnostics, basics of the prevention and treatment</li> <li>- Examinations and therapeutic interventions in endocrinology and diabetology</li> <li>- Nephrology - disease pathophysiology, epidemiology and the impact of the disease, basic signs and symptoms, diagnostics and differential diagnostics, basics of the prevention and treatment</li> <li>- Examinations and therapeutic interventions in nephrology</li> <li>- Eliminations methods in renal failure.</li> <li>- Improvement of the knowledge of the Internal propaedeutic</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Improvement of the skills when taking history and of the patient's clinical examination</li> <li>- Individual examination of the patient with the endocrinal disease and diabetes mellitus, elaboration of the patient's medical record</li> <li>- Assistance by ultrasound of the thyroid gland</li> <li>- Individual examination of the patient with kidney disease, elaboration of the patient's medical record</li> <li>- Catheterisation of urinary bladder</li> <li>- Assistance during eliminations methods (hemodialysis, peritoneal dialysis).</li> <li>- Improvement of the skills in describing the ECG and chest X-ray</li> </ul>	

- Venipuncture, collection of venous and arterial blood, administration of i.v., i.m. and s.c. medication, measurement of blood pressure, pulse and body temperature

**Class syllabus:**

Endocrinopathies (epidemiology, social impact). Diseases of hypophysis and hypothalamus. Pituitary tumors. Acromegaly and gigantism. Hyperprolactinemia. Pineal gland disorders. Syndrome of inappropriate secretion of ADH. Diabetes insipidus. Cushing's disease and syndrome. Addison's disease. Diseases of the adrenal medulla. Parathyroid diseases. Thyroid diseases (hyper- and hypothyroidism, thyroiditis, tumors of the thyroid gland). Testicular insufficiency. Tumors of testes. Ovarian insufficiency, ovarian tumors. Paraneoplastic endocrinopathies.

Diabetes mellitus and its complications. Dyslipidemia. Metabolic syndrome. Obesity. Porphyrias. Acute and chronic renal insufficiency. Extracorporeal elimination methods. Indications for dialysis and kidney transplantation. Acute and chronic glomerulonephritis. Nephrotic syndrome. Systemic diseases with renal manifestations. Infections of urinary tract. Interstitial nephritis. Urolithiasis. Polycystic kidneys. Renal dysfunctions by other metabolic diseases. Tumors of urogenital tract.

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition.

Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16

GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16

JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J. Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7

GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7

COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition. Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 240

A	B	C	D	E	FX
36,67	26,25	18,75	13,33	2,92	2,08

**Lecturers:** prof. MUDr. Ján Murín, CSc., doc. MUDr. Jozef Bulas, CSc., prof. MUDr. Stanislav Oravec, CSc., doc. MUDr. Martin Čaprnda, PhD., prof. MUDr. Viera Štvrtinová, PhD., doc. MUDr. Soňa Kiňová, PhD., doc. MUDr. Ján Lietava, CSc., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Viliam Mojto, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., prof. MUDr. Peter Pont'uch, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD., doc. MUDr. Martin Dúbrava, CSc., prof. MUDr. Silvester Kréméry, CSc.

<b>Last change:</b> 30.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK5/L-S-VLa-033/19	<b>Course title:</b> Internal Medicine 5
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 26s / 45s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK5/L-S-VLa-093/22 - Internal Medicine 4	
<b>Course requirements:</b> 1/ Compulsory 100% attendance at the practicals. 2/ Pass the final credit written test (Evaluation of the test: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Geriatrics and gerontology, clinical issues of older age, care of the dying patient</li> <li>- Basic concepts e of occupational medicine, assessment and recognition of occupational diseases. Basic toxicological concepts. Professional damage of respiratory tract, liver and kidneys. Diseases from the long, one-sided and excessive load. Diseases from the physical factors.</li> <li>- Basics of physiotherapy and its importance in internal medicine. Physical therapy in diseases of various systems.</li> <li>- Basics of differential diagnostics and management of the patients with “major symptoms of internal medicine” (dyspnoea, chest pain, abdominal pain, loss of consciousness)</li> <li>- Improvement of knowledge of Internal propaedeutic</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Individual examination of the geriatric patient with regard to the specifics of older age, clinical signs of diseases in older age and specifics of treatment</li> <li>- Physical therapy in diseases of various systems</li> <li>- Complex history taking from patient with an emphasis on occupational part of history, managing a medical preventive examination according to work risk factors, interpretation of hygienic survey at work, assessing the eligibility to the specific jobs.</li> <li>- Interpretation of the results by various intoxications and preparation of the toxicological information in the Center of Toxicology</li> <li>- Cardiopulmonary resuscitation in internal medicine</li> <li>- Mamanaging of a acute ill patient with major symptoms.</li> <li>- Improvement of the skills in describing the ECG and chest X-ray</li> </ul>	

- Venipuncture, collection of venous and arterial blood, administration of i.v., i.m. and s.c. medication, measurement of blood pressure, pulse and body temperature

**Class syllabus:**

Introduction to the diagnostics, treatment and appraisal of diseases work related and diseases caused by physical and chemical factors of environment. Diagnostics and treatment of intoxications. Assessment and recognition of occupational diseases. Definition of geriatrics and gerontology. Theoretical basics of gerontology and geriatrics. Social peculiarities of older age. Physiotherapy in internal medicine – the effect of physical stimulation, heat and water therapy, inhalation therapy, massage. Balneology. Climatic therapy. Physical therapy in cardiovascular diseases, diseases of respiratory tract, digestive system, musculoskeletal system. Problems in acute internal medicine. Pre-operative preparation – indications for surgery, risks assessment. Differential diagnostics of major symptoms in internal medicine (dyspnea, chest pain, abdominal pain, fever etc.)

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition. Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1  
KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J. Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7  
GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition. Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 431

A	B	C	D	E	FX
35,96	48,72	11,6	2,78	0,93	0,0

**Lecturers:** prof. MUDr. Stanislav Oravec, CSc., doc. MUDr. Jozef Bulas, CSc., doc. MUDr. Martin Čaprnda, PhD., prof. MUDr. Viera Štvrtinová, PhD., doc. MUDr. Soňa Kiňová, PhD., doc. MUDr. Ján Lietava, CSc., prof. MUDr. Ján Murín, CSc., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., doc. MUDr. Viliam Mojto, CSc., prof. MUDr. Peter Pont'uch, CSc., prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD., doc. MUDr. Martin Dúbrava, CSc., prof. MUDr. Silvester Krčméry, CSc., doc. MUDr. Igor Bátor, CSc., MUDr. Marta Hájková, CSc., doc. MUDr. Štefan Urban, CSc., doc. MUDr. Marek Kučera, PhD., MPH

<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK5/L-S-VLa-094/22	<b>Course title:</b> Internal Medicine 6
<b>Educational activities:</b> <b>Type of activities:</b> seminar / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 36s / 364s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 16	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK5/L-S-VLa-033/19 - Internal Medicine 5	
<b>Course requirements:</b> 1/ Compulsory 100% attendance at the practicals. 2/ Compulsory 100% attendance at the seminars. 3/ Completion of circulations at the specialized department (Dept. of haematology, Dept. of oncology, Dept. cardiology and angiology, Dept. of laboratory medicine) 4/ 5 night shifts State exam: - Practical part: practical examination of the patient (history, physical examination, diagnostic workup, draft of differential diagnostic, draft of treatment), written report of patient's examination, practical description of ECG and chest X-ray. - Oral exam: Successful answering of 3 questions.	
<b>Learning outcomes:</b> Knowledge: - Improvement of knowledge of internal medicine }cardiology, pneumology, gastroenterology, hepatology, nephrology, hematology, endocrinology, diabetology, rheumatology - Differential diagnostics in internal medicine - Preparing a therapeutic plan Skills: - Stay at the outpatient clinic, get familiar with the work of doctor at outpatient clinic (range of physician), learn the procedures for dealing with urgent and emergency situations - Stay at the Department of oncology, and managing of oncology patients. - Stay at the Department of haematology and transfusiology. - Stay at the Department of cardiology and angiology. - Stay at the Department of laboratory medicine. - Stay at the intensive care unit. - Practical work at internal department in the range of resident doctor: presence at morning meeting, morning round, examining of the patients, reporting at the professor's round, medical report writing, preparing diagnostic and therapeutically procedures, case history, differential diagnostics - Improvement of propaedeutic examinations and their use in daily work.	

- Evaluation of the results of various examination methods. Improvement of diagnostic and standard therapeutic procedures in internal medicine. Get familiar with all the standard non-invasive methods used in internal medicine.
- Cardiopulmonary resuscitation in internal medicine
- Improvement of skills in describing the ECG and chest X-ray
- Improvement of practical skills (venepuncture, collection of venous and arterial blood, administration of i.v., i.m and s.c. medication, catheterisation of urinary bladder, rectal examination etc.)
- Pre-operative examination and assessment of operation risk

**Class syllabus:**

Practical work as physician – morning meeting, morning round, examining of patients, reporting to the professor, medical record writing, preparing diagnostic and therapeutical procedures, improving differential diagnostics thinking. Stay at the outpatient department; get familiar with the work of the doctor at outpatient clinic and with the work in urgent situations. Stay at the department of oncology, haematology and transfusiology, cardiology and angiology, and laboratory medicine. Stay at intensive care unit. Cardiopulmonary resuscitation, defibrillation. Improvement of propaedeutical examinations and their use in the diagnosis workup. Evaluation of the results of auxiliary examinations. Improvement in diagnostic and standard therapeutic practice in internal medicine. Get familiar with standard non-invasive methods used in internal medicine. Independent evaluation of X-ray (chest, abdomen, urography, cholecystography, irigography). Independent evaluation of ECG. Catheterization of urinary bladder. Collection of biologic material. Venepunction, administration of injections and infusions. Abdominal puncture. Pleural puncture and examination of punctate. Assistance by various diagnostic and therapeutic procedures. Seminars: shock and hypotension. Hypertension and its differential diagnostics. Heart failure. Peripheral vascular diseases. Hemotherapy principles. Transplantation of bone marrow. Hemostasis. Respiratory insufficiency. Acute conditions in gastroenterology. Differential diagnostics of diarrhea. Liver insufficiency. Acute conditions in endocrinology. Osteoporosis. Novelties in rheumatology. Renal insufficiency. Principles of diabetes mellitus therapy and its acute complications. Principles of antibiotic's treatment. Disorders of consciousness. Intoxications.

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition. Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016.1456 pp. ISBN: 978-0-70020-660-16

GOLDMAN, L. et al. Goldman's cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016.3024 pp. ISBN 978-1-4577-5017-7

KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016.1456 pp. ISBN: 978-0-70020-660-16

JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J. Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7

GOLDMAN, L. et al. Goldman's cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016.3024 pp. ISBN 978-1-4577-5017-7

COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition. Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 202					
A	B	C	D	E	FX
73,76	18,81	5,45	0,99	0,99	0,0
<p><b>Lecturers:</b> prof. MUDr. Ján Murín, CSc., doc. MUDr. Jozef Bulas, CSc., prof. MUDr. Stanislav Oravec, CSc., doc. MUDr. Martin Čaprnda, PhD., prof. MUDr. Viera Štvrtinová, PhD., doc. MUDr. Soňa Kiňová, PhD., doc. MUDr. Ján Lietava, CSc., doc. MUDr. Ľudovít Lukáč, PhD., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Viliam Mojto, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., doc. MUDr. Jozef Kalužay, PhD., prof. MUDr. Peter Pont'uch, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD., doc. MUDr. Eva Goncalvesová, CSc., doc. MUDr. Juraj Maďarič, PhD., MPH, doc. MUDr. Igor Bátora, CSc., prof. MUDr. Angelika Bátorová, CSc., doc. MUDr. Martin Dúbrava, CSc., prof. MUDr. Silvester Krčméry, CSc.</p>					
<b>Last change:</b> 29.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK5/L-S-VLa-102/19	<b>Course title:</b> Internal Medicine – practice
<b>Educational activities:</b> <b>Type of activities:</b> practice <b>Number of hours:</b> <b>per week: per level/semester:</b> 80s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Compulsory 100% attendance at the practice in the hospital.	
<b>Learning outcomes:</b> Knowledge: - deepening the acquired knowledge of internal propaedeutic and internal medicine in daily clinical practice Skills: - work as a doctor resident in the internal medicine department (in the inpatient and outpatient department) - complete admission and discharge of the patient (taking history, clinical examination, preparing diagnostic and therapeutic plan, writing medical records) - participation during the head physicians rounds - improvement in practical propaedeutic investigation methods - practical evaluation of ECG findings and X-rays of the chest and abdomen - assistance and performance of practical diagnostic and therapeutic procedures (sternal, thoracic, abdominal, hepatic) and in various more complex examinations (gastroscopy, colonoscopy, bronchoscopy, ERCP), ultrasonography examination of the abdomen and vessels, - administration of various types of injections, infusions, transfusions (under the guidance of a doctor), blood sampling for various examinations, collection of urine, sputum and other biological material - work during night shifts and ER shifts	
<b>Class syllabus:</b> During this internship, students become acquainted with the work of a resident doctor. They work in the inpatient and outpatient departments. The student makes all necessary documentation during the admission and discharge of the patient (history taking, writing medical records for new patients and daily records of patients assigned to him, about 4 - 5 patients). All work is performed under the guidance of the head physician. In addition, the student participates during head physicians rounds. The student learns about the main pathological physical findings, in order to gain as much as possible from inspection, percussion, palpation and auscultation during the practice. Throughout the internship, students have to practically evaluate ECG findings and X-rays. Students are also	

involved in practical diagnostic and therapeutic procedures - administration of various types of injections, infusions, transfusions (under the guidance of a doctor), blood collection for various examinations, and collection of urine, sputum and other biological material. They participate in various punctures (sternal, thoracic, abdominal, hepatic) and in various more complex examinations (gastroscopy, bronchoscopy), or newer examination methods and procedures. Students should perform 3 night shifts.

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition. Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1  
KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J. Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7  
GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition. Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 482

ABS0

100,0

**Lecturers:** prof. MUDr. Juraj Payer, PhD., MPH, doc. MUDr. Soňa Kiňová, PhD., doc. MUDr. Viliam Mojto, CSc.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.IK_1/L-S-VLa-035/18	<b>Course title:</b> Internal Propedeutics
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 37s / 50s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 6	
<b>Recommended semester:</b> 5.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.AÚ/L-S-VLa-003/17 - Anatomy 3 and LF.FyÚ/L-S-VLa-014/17 - Physiology 2	
<b>Course requirements:</b> 1/ Compulsory 100% attendance at the practicals. 2/ Pass the final credit written test (Evaluation of the test: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less). Successfully passed test (minimal score 60%) is required for the admission to the oral part of the exam 3/ Pass the oral exam (successful answering of all questions). The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- History of internal medicine. Content and mission of internal medicine.</li> <li>- Parts of patient's history and their importance in the differential diagnostics.</li> <li>- Symptoms and syndromes of various system diseases and their importance in internal propaedeutic.</li> <li>- Basics of physical examination of the patient }inspection, palpation, percussion, auscultation, examination of head, neck, chest, abdomen and limbs)</li> <li>- ECG – basic parts of ECG curve, basic physiological and pathological findings on ECG</li> <li>- X-ray of the chest and abdomen – description, basic findings.</li> <li>- Theoretical basis of laboratory exams in internal medicine, review, indications and evaluation of the results.</li> <li>- Theoretical basis of special examinations in internal medicine (ultrasound, endoscopy etc.).</li> <li>- Theoretical basis of diagnostic and therapeutic procedures in internal medicine (puncture of ascites, pleural puncture, puncture of bone marrow, urine examination etc).</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- First contact with the patient and history taking.</li> <li>- Basis of clinical examination of the patient – status praesens generalis and status praesens localis (examination of head, neck, chest, abdomen and limbs).</li> <li>- Individual examination of the patient and medical record writing.</li> <li>- Basic description of ECG</li> <li>- Basic description of chest and abdomen X-ray</li> </ul>	

- Venipuncture, collection of venous and arterial blood, administration of i.v., i.m. and s.c. medication, measurement of blood pressure, pulse and body temperature

**Class syllabus:**

Patient's history – general (current disease, personal and family history, epidemiological and social history, lifestyle, habits). Patient's history – special (according to the disease), main clinical symptoms of the diseases. Status praesens generalis. Status praesens localis. Physical examination (inspection, palpation, percussion, auscultation) of the head, neck, chest, abdomen, limbs and musculoskeletal system. Evaluation of ECG. X-ray diagnostics and imaging techniques. Laboratory examinations in internal medicine. Special examination in internal medicine. Individual examination of the patient and medical record writing.

**Recommended literature:**

SWARTZ, MH. Textbook of physical diagnosis: history and examination, 7th edition. Philadelphia: Elsevier Saunders 2014. ISBN: 978-0-3232-2148-1  
KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
KUMAR, P., CLARK, M. Kumar and Clark's Clinical Medicine, 9th edition. Philadelphia: Elsevier Saunders, 2016. 1456 pp. ISBN: 978-0-70020-660-16  
JAMESON, L., FAUCI, A., KASPER, D., HAUSER, S., LONGO, D., LOSCALZO J. Harrison's Principles of Internal Medicine 20th ed. New York: McGraw-Hill, 2018. ISBN 978-1-25-964404-7  
GOLDMAN, L. et al. Goldman's Cecil medicine, 25th edition. Philadelphia: Elsevier Saunders, 2016. 3024 pp. ISBN 978-1-4577-5017-7  
COLLEDGE, N.R. et al. Davidson's Principles and Practice of Medicine, 22nd edition. Edinburgh: Churchill Livingstone, 2014. 1392 pp. ISBN 978-0-7020-5035-0

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 794

A	B	C	D	E	FX
31,99	25,06	20,15	11,46	10,83	0,5

**Lecturers:** prof. MUDr. Stanislav Oravec, CSc., doc. MUDr. Jozef Bulas, CSc., prof. MUDr. Viera Štvrtinová, PhD., doc. MUDr. Soňa Kiňová, PhD., doc. MUDr. Ján Lietava, CSc., doc. MUDr. Ľudovít Lukáč, PhD., prof. MUDr. Ján Murín, CSc., doc. MUDr. Martin Čaprnda, PhD., doc. MUDr. Denisa Čelovská, PhD., prof. MUDr. Viliam Bada, CSc., doc. MUDr. Mária Szántová, PhD., prof. MUDr. Viera Kupčová, CSc., doc. MUDr. Viliam Mojto, CSc., prof. MUDr. Andrej Dukát, CSc., prof. MUDr. Juraj Payer, PhD., MPH, prof. MUDr. Tibor Hlavatý, PhD., doc. MUDr. Peter Jackuliak, PhD., MPH, doc. MUDr. Zdenko Killinger, PhD., doc. MUDr. Tomáš Koller, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-160/19	<b>Course title:</b> Introduction to Healthcare Management
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 90% attendance at the lectures <b>Final exam:</b> - completing the task on the assigned topic - oral exam: 1 question <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> The aim of the course is to provide students with basic knowledge and skills from healthcare management and thus enhance the professional competencies of future medical doctors. <b>Knowledge:</b> After successful completion of the course student will be able to: - Understand the importance and functions of management and explain the basic managerial terms and processes. - Discuss the role of the management in healthcare. - Understand the role of organizational and human resource management in the healthcare. - Understand the core concepts and measurement tools of quality and safety in health care and role of organizational culture. - Describe the new approaches and strategies for process improvement and problem solving in healthcare. <b>Skills:</b> After successful completion of the course student will be able to : - Apply systemic, professional, and creative approach to identify and address the problems and challenges in health care facilities. - Demonstrate and apply knowledge of strategic planning and decision making in healthcare organizations. - To collect data a analyze the external and internal environment of health care organization. - Apply new managerial tools and models in management of healthcare facilities	

- Work effectively in team and apply principles of holistic leadership.

**Class syllabus:**

Management – basic terminology, functions, history. Healthcare management. External environment and internal environment of healthcare organizations. Financing health care. Health systems: structure, typology and benchmarking. Healthcare organizations: characteristics, types, forms. Organizational structure. Organizational culture (typology). Mobbing and discrimination at workplace and its prevention. Strategic management and planning. Mission, goals and tasks of organization. SWOT analysis. Functions, roles and skills of manager. Managerial processes. Leadership. Management styles. Work groups, teamwork. Managerial communication. Human resource management. Assessment and motivation of employees in health care organization. Patient safety and risk management in health care organizations. Quality management in health care. Lean management in healthcare (Lean Six Sigma ). New trends and challenges in healthcare management.

**Recommended literature:**

Kosticova M. ( ed.). Social Medicine. Bratislava: Comenius University, 2015.  
Amelung VE. Healthcare Management. Managed Care Organisations and Instruments. Springer-Verlag Berlin Heidelberg, 2013.  
Robbins P., Coulter M. Management. 11th ed. New Jersey: Pearson Education, Inc., 2012  
Walshe K., Smith J. (eds). Healthcare Management. Maidenhead, England: Open University Press, 2011.  
Healey, B.J., Marchese, M. C. Foundations of Health Care Management : Principles and Methods. John Wiley & Sons, 2012  
World Health Organization: Patient safety incident reporting and learning systems: technical report and guidance. Geneva: World Health Organization; 2020

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 109

A	B	C	D	E	FX
95,41	2,75	0,92	0,92	0,0	0,0

**Lecturers:** doc. MUDr. Michaela Kostičová, PhD., MPH, doc. Ing. Milan Fekete, PhD., Mgr. et Mgr. Silvia Capíková, PhD., Ing. Magdaléna Veselská

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚMB/L-S-VLa-068/17	<b>Course title:</b> Introduction to Science
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Successful completion of a written test (at least 60% correct answers) Evaluation of the test: A: 91-100%, B: 81–99%, C: 73–80%, D: 66–72%, E: 60–65%, Fx: 59% and less	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- The principles of evaluation of the quality of scientific research will be explained, the students will gain knowledge about the possibilities of searching and retrieving relevant information as well as about the evaluation of information sources.</li> <li>- Students will acquire knowledge about the principles of scientific work in biomedicine, the planning, evaluation and critical evaluation.</li> <li>- Students will become familiar with the requirements for master theses and dissertations, they will learn basics of writing of scientific publications.</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Students will learn how to find and evaluate information in bibliographic databases.</li> <li>- Students will be able to correctly apply the most frequently used statistical tests.</li> <li>- Students will be able to critically evaluate a scientific article in terms of its content, form and source.</li> <li>- Students will be able to interpret the results of scientific work.</li> </ul>	
<b>Class syllabus:</b> Scientific principles in biomedicine. Information sources and their quality. Bibliographic databases and search. Descriptive statistics. Statistical testing. Scientific texts and diploma theses. Abstract, citations and references. Design of experiments. Presentation and interpretation of results. Biases and frauds in science.	
<b>Recommended literature:</b> Lectures at <a href="http://www.imbm.sk">www.imbm.sk</a> Katz, MJ: From Research to Manuscript: A Guide to Scientific Writing, Springer, 2009 Glasser, SP: Essentials of Clinical Research, Springer, 2008	

Doumont, J: English Communication for Scientists. Cambridge, MA: NPG Education, 2010

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1018

A	B	C	D	E	FX
8,35	11,2	18,86	24,36	26,23	11,0

**Lecturers:** doc. MUDr. Ing. Peter Celec, DrSc., doc. MUDr. RNDr. Roman Gardlík, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-161-4/19	<b>Course title:</b> Introduction to the History of Medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance - written test (minimum 60% of correct answers) and essay on chosen topic Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Get a comprehensive view of medicine through the eyes of history by using the most interesting medical practices in the past. Provide a medical students with a general overview of the history of medicine and healthcare. Knowledge: periodization of history of medicine, knowledge about most important physicians and discoveries connected with the history of medicine Skills: orientation in space and time, critical thinking, work with historical sources and scientific literature	
<b>Class syllabus:</b> 1. Introduction and interpretation of historical sources 2. Prehistoric medicine through the eyes of paleopathology. Advantages/disadvantages of the Neolithic Revolution 3. Papyrus as a source. Common and unusual medical procedures. Medicine in Mesopotamia 4. Tradition of Chinese and Indian Medicine. Past - present – future? 5. Ancient Greece - the cradle of scientific medicine? Hippocrates, the Father of Medicine? 6. Medicine of Ancient Rome. Galenos, his prodecessors and followers 7. Eastern and Western healthcare systems. Parallels and differences. Monastic medicine. Christianity as a social religion 8. Mediaval Islamic medicine. Islam as a social religion 9. Schola Medica Salernitana and Septem artes liberales. First European universities. The most famous faculties of medicine in early modern period 10. Renaissance and Enlightenment - not only in medicine. Human anatomy and Andreas Vesalius 11. Scientific medicine of the 19th century. Soul and body. Women in science, women in medicine	

12. Questions and answers, or what it was all about

**Recommended literature:**

BOWERS, Barbara S. (ed.). The Medieval Hospital and Medical Practice. London 2007  
DUIN, Nancy – SUTCLIFFE, Jenny. A History of Medicine: from Prehistory to the year 2020. London; New York 1992.  
HALIOUA, Bruno – ZISKIND, Bernard. Medicine in the Days of Pharaohs. London 2005.  
PORTER Roy. The Greatest Benefit to Mankind: A Medical History of Humanity. London 1999.  
PORTER, Roy (ed.). The Cambridge History of Medicine. Cambridge 2006.  
PRIORESCHI, Plinio. A History of Medicine, vol. I: Primitive and Ancient Medicine. Omaha 1996.  
PRIORESCHI, Plinio. A History of Medicine, vol. IV: Byzantine and Islamic Medicine. Omaha 2001.  
PRIORESCHI, Plinio. A History of Medicine, vol. V: Medieval Medicine. Omaha 2003.  
SIRAIISI, Nancy G. Medieval and Early Renaissance Medicine: An Introduction to Knowledge and Practice. Chicago 2009.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 65

A	B	C	D	E	FX
98,46	0,0	1,54	0,0	0,0	0,0

**Lecturers:** Mgr. Matej Gogola, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-038/16	<b>Course title:</b> Latin Medical Terminology 1
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the overall assessment) and one final test (100 points, makes 85% of the overall assessment). Test assessment: A: 94 – 100 %, B: 87 – 93 %, C: 80 – 86 %, D: 70 – 79 %, E: 60 – 69 %, Fx: 59 % – 0%. The overall grade (minimum of 60%) is determined by the grades obtained in the midterm (15%) and final (85%) test and is their weighted average.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Acquisition of basic medical terminology with an emphasis on anatomical nomenclature. Mastery of basic grammar to understand the structure of specialized anatomical terms. Knowledge of terms of Latin and Greek origin, which are the basis of professional medical terminology. <b>Skills:</b> Language competence enabling the highest possible level of obtaining information and knowledge from professional sources; the ability to understand the structure of Latin anatomical terms and to use them correctly; ability to use Latin medical terminology in oral speech or professional text.	
<b>Class syllabus:</b> Introduction to the study of Latin. Brief historical overview. Pronunciation, basic grammatical concepts, declension of nouns, overview of declensions, structure of multi-word terms. First Latin and Greek declension. Adjective of the first declension. Second Latin and Greek declension. Adjective of the second declension. Third declension – consonant stems. Third declension – vowel stems: masculine and feminine. Third declension - vowel stems: neuter. Fourth and fifth declination. Adjectives of the third declension. Comparison of adjectives.	
<b>Recommended literature:</b> Bujalková, M., Šimon, F.: Graeco-Latin Medical Terminology. Martin: Osveta 2017. 190 p. ISBN 978-80-8063-451-3	
<b>Languages necessary to complete the course:</b> English	

<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 1629					
A	B	C	D	E	FX
38,74	23,27	15,96	10,5	10,13	1,41
<b>Lecturers:</b> PhDr. Tomáš Hamar, PhD., Mgr. Angela Škovierová, PhD., Mgr. Eva Taranová, PhD., Mgr. Oľga Vaneková, PhD., Mgr. Daniela Rošková, PhD., Mgr. Melinda Vasiľová, PhD., Mgr. Ema Pavľáková, PhD., Mgr. Ivan Lábaj, PhD., Mgr. Mária Šibalová, PhD., Ing. Janka Bábelová, PhD., Mgr. Radoslav Ďurajka, PhD., Mgr. Lucia Lauková, PhD., Mgr. Marek Šibal, PhD.					
<b>Last change:</b> 23.05.2024					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-039/16	<b>Course title:</b> Latin Medical Terminology 2
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚCJ/L-S-VLa-038/16 - Latin Medical Terminology 1	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the overall assessment) and one exam test (200 points, makes 85% of the overall assessment). Test assessment: A: 94 – 100 %, B: 87 – 93 %, C: 80 – 86 %, D: 70 – 79 %, E: 60 – 69 %, Fx: 59 % – 0%. The overall grade (minimum of 60%) is determined by the grades obtained in the midterm (15%) and final (85%) test and is their weighted average.	
<b>Learning outcomes:</b> Knowledge: Acquisition of basic medical terminology with an emphasis on clinical nomenclature. Learning the basics of word formation. Acquiring knowledge from clinical terminology, creation of professional terms. Ability to read professional texts with understanding. Reading and analyzing medical reports. Knowledge of terms and phrases used in medical prescriptions. Skills: Language competence enabling the highest possible level of obtaining information and knowledge from professional sources; ability to understand the structure of Latin and Greek anatomical and clinical terms; ability to understand medical reports; competence to use professional terms correctly; ability to use Latin medical terminology in oral speech or professional text.	
<b>Class syllabus:</b> Anatomical nomenclature and clinical terminology (differences). Repetition and consolidation of declensions. Comparison of adjectives. Third Greek declension – consonant and vowel. Formation of clinical terms with suffixes -itis, -osis, -oma. Numerals and verb forms in medical terminology. Recipe construction and recipe examples. Practicing writing recipes. Latin and Greek prefixes. Latin and Greek suffixes. Adaptation of Greek names of diseases. Adverbs in medical terminology. Compound word in medical terminology. Pathological-anatomical diagnosis, examples. The Hippocratic Oath. Latin memorabilia.	
<b>Recommended literature:</b> Bujalková, M., Jurečková, A.: Greco-Latin Medical Terminology. Martin: Osveta 2017. 190 p. ISBN 978-80-806-3451-3	
<b>Languages necessary to complete the course:</b>	

English					
<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 1468					
A	B	C	D	E	FX
45,37	26,16	14,99	7,56	5,25	0,68
<b>Lecturers:</b> PhDr. Tomáš Hamar, PhD., Mgr. Angela Škovierová, PhD., Mgr. Oľga Vaneková, PhD., Mgr. Melinda Vasil'ová, PhD., Mgr. Ema Pavl'áková, PhD., Mgr. Mária Šibalová, PhD., Ing. Janka Babelová, PhD., Mgr. Radoslav Ďurajka, PhD., Mgr. Lucia Lauková, PhD., Mgr. Marek Šibal, PhD.					
<b>Last change:</b> 22.05.2024					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLChB/L-S-VLa-041/17	<b>Course title:</b> Medical Biochemistry 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 36s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 3.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% participation in practical exercises and seminars, elaboration of protocols Course evaluation: credit test - 24 questions 4 answers + 6 creative questions (achieve at least 80% points) Test rating: A: 97-100%, B: 93-96%, C: 89-92%, D: 85-88%, E: 80-84%, Fx: 79% and less	
<b>Learning outcomes:</b> <b>Knowledge:</b> - acquisition of basics of metabolic processes - acquisition of basic knowledge of cell energy, carbohydrate, lipid, amino acid and nucleotide metabolism - gaining basic knowledge about regulation metabolic processes <b>Skills:</b> - acquisition of basic skills from laboratory practice - acquire the ability to understand the basics of metabolism and molecular mechanisms of functioning of organs and tissues of the human body - acquisition of the ability to evaluate the results of laboratory tests in relation to potential pathological changes in the body	
<b>Class syllabus:</b> Biological oxidations and their importance in the body. Energy production in the cell - terminal oxidation. Principles of allosteric and hormonal regulation in the body. Intermediate metabolism - compartmentation and energy balance of metabolic pathways. Carbohydrate metabolism (glycolysis, gluconeogenesis, glycogenesis and glycogenolysis, pentose metabolism). Influence of substrate and oxygen availability on energy production for the organism. Maintenance and disorders of glycemic control. Metabolism of lipids, phospholipids and steroids (FA synthesis, FA oxidation, TAG synthesis, lipolysis, ketogenesis, phospholipid and cholesterol synthesis). Lipoprotein function and metabolism, hyperlipoproteinemia. Amino acid and protein metabolism. Ammonia detoxification - organ and cell compartmentation. Disorders of ammonia metabolism. Tetrapyrrole metabolism. The role of the kidneys in maintaining homeostasis and excretion of waste products.	

<b>Recommended literature:</b> Practical exercises in biochemistry. Bratislava, Asklepios, the last edition Champe, Harvey: Biochemistry. J.B. Lippincott Company, the last edition					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 1176					
A	B	C	D	E	FX
4,34	11,65	15,73	19,81	31,89	16,58
<b>Lecturers:</b> prof. MUDr. Ladislav Turecký, CSc., doc. RNDr. Monika Ďurfinová, PhD., prof. RNDr. Jana Muchová, PhD., doc. MUDr. Viera Rendeková, CSc., doc. RNDr. Eva Uhlíková, CSc., prof. Ing. Ingrid Žitňanová, PhD., doc. Ing. Mária Chomová, PhD., RNDr. Zuzana Országhová, PhD., Mgr. Ľubomír Kuračka, PhD., Ing. Lucia Laubertová, PhD.					
<b>Last change:</b> 29.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLChB/L-S-VLa-042/17	<b>Course title:</b> Medical Biochemistry 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 36s / 36s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 6	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚLChB/L-S-VLa-037/16 - Medical Chemistry and LF.ÚLChB/L-S-VLa-041/17 - Medical Biochemistry 1	
<b>Course requirements:</b> 100% participation in practical exercises and seminars, elaboration of protocols Course evaluation: - written part – 50 questions (achieve at least 80% points) - oral part – 2 questions (metabolism + functional biochemistry) Test rating: A: 97-100%, B: 93-96%, C: 89-92%, D: 85-88%, E: 80-84%, Fx: 79% and less	
<b>Learning outcomes:</b> <b>Knowledge:</b> - to gain knowledge about metabolic processes in the cells of the human body as a basis for understanding the function of organs - to gain knowledge for understanding the biochemical basis of the function of tissues and organs of the human body - gain knowledge about the molecular mechanisms of regulation of organ function from gene expression to the level of the whole organism - to gain knowledge about the relationships of metabolic processes in tissues as a basis for understanding the context important for the needs of clinical biochemistry <b>Skills:</b> - acquire basic laboratory skills for examination by bed side chemistry methods and in a reference laboratory - the ability to understand the functioning of the tissues and organs of the human body at the molecular level - on the basis of an understanding of the function of tissues and organs at the molecular level, to acquire the ability to understand changes in molecular processes in pathological circumstances and to understand the molecular mechanisms of drugs action	
<b>Class syllabus:</b> Nucleotide and nucleic acid metabolism. Proteosynthesis. Gene expression, apoptosis and regulation of cell cycle. Signal transmission mechanisms, autocrine and paracrine regulation. Endocrine regulation - insulin, glucagon, thyroid hormones, steroid hormones, adrenal medulla	

hormones, protein hormones. The role of the autonomous nervous system in regulatory processes. CNS biochemistry - specific characteristics of metabolism in CNS tissue and their relation to CNS function and structure. Plasma proteins. Biochemistry of connective tissue, bone and adipose tissue. Biochemistry of muscle and muscle contraction. Biochemistry of kidneys and pathological components of urine. Liver biochemistry and xenobiochemistry. GIT biochemistry and digestion. Acid-base balance. Biochemistry of minerals and trace elements. Biochemistry of diabetes. Clinically important enzymes.

**Recommended literature:**

Practical exercises in biochemistry. Bratislava, Asklepios, the last edition  
Champe, Harvey: Biochemistry. J.B. Lippincott Company, the last edition

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 924

A	B	C	D	E	FX
22,51	12,01	18,18	15,58	22,51	9,2

**Lecturers:** prof. MUDr. Ladislav Turecký, CSc., doc. MUDr. Viera Rendeková, CSc., doc. RNDr. Eva Uhlíková, CSc., doc. Ing. Mária Chomová, PhD., doc. RNDr. Monika Ďurfinová, PhD., Ing. Lucia Laubertová, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S-VLa-040/16	<b>Course title:</b> Medical Biophysics
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 36s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 8	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals - 2 written test (minimum 60% of correct answers) - 14 protocols from practicals must be measured <b>Final exam:</b> -written test (min. 60 %) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. - oral theoretical exam: 2 question from theoretical and practical lessons	
<b>Learning outcomes:</b> 1. To provide the main knowledge about basic physical phenomenon occurring in human body under health and illness. 2. To teach the prevention from damage by physical factors and to study their targeted elimination 3. To gain the both theoretical and practical knowledge and skills in application of diagnostics and therapeutics methods in medicine.	
<b>Class syllabus:</b> <b>Lectures:</b> Biophysics of the cell. Active and passive transport through cell membrane. Diffusion, osmosis, medical application. Physical properties of cell membrane, organs and tissues. Registration and propagation of the signal. Resting membrane potential, action potential. Processing and diagnostic use of proper and induced biosignals. Biophysics of blood circulation. Heart as a pump. Blood flow. Blood pressure, principles of measurement. Thermal radiation. Thermography. Liquid crystals. Biophysics of breathing. External and internal breathing. Sound. Biophysics of sound analyser. Origin of human voice. Physical characteristic of human voice. Therapeutic use of interaction of physical factors with human body. Application of electrical impulses in medicine. Electrical safety. Physical ground and use of ultrasound in medicine. Doppler effect. Biophysical grounds of optical methods in medicine. Sources of light. Reflection, refraction and diffraction of light. Optical and electron microscope. Biophysics of eye. Concept of electric dipole and double-layer. Effect of electric current on human body. Alternating and direct electric current and their	

application. Biophysics of tissues and organs. Biophysics of locomotion system. Biophysics of bones, tendons and joints. Biophysics of muscles, muscle contraction. Biophysics of excitation processes. Electrical properties of cells, tissues and organs. Electric signals measured on the body surface (ECG, EEG, EMG, ERG). Structure of matter from biophysical point of view. Kinds of radioactive radiation. Radioactive decay. Interaction of ionising and non-ionising radiation with environment. Dosimetry. Medical use of radiation. Radiometry and photometry. Use of ionising radiation in medicine. Imaging methods using radionuclides. X-rays and imaging methods. Basics of thermodynamics. First, second and third thermodynamic law. Thermodynamics of biological systems. Thermodynamic properties of biological systems. Molecular biophysics. Interactions among particles (chemical bonds). Creation of molecules. Properties of water. Gases and condensed systems. Physical properties of biological liquids and gases. Fluids flow. Basic laws for gases.

**PRACTICAL TRAININGS:**

Safety and health protection rules, physical quantities, conversion of physical units, measurement errors and uncertainties, tables and graphs, basic statistics, microclimatic factors, thermometry, illuminance, visual acuity, refractometry, spectrophotometry, stalagmometry, viscometry, ECG analysis, electrical heart axis, anthropometry, body composition, blood pressure measurement, ultrasonography imaging, blood flow velocity measurement, radiation absorption, dosimetry

**Recommended literature:**

1. Practical tasks in medical biophysics. Martin: Osveta, 2013. 143 s. ISBN 978-80-8063-402-5
2. KUKUROVÁ ELENA et al. Basics of Medical Physics and Biophysics for electronic education of health professionals. Digital study text. Bratislava : Asklepios, 2013, 232 p. ISBN 978-80-7167-177-0. [online]. Available on Internet: <[http://www.fmed.uniba.sk/fileadmin/user\\_upload/editors/ustavy/fyzika/Literatura\\_2013/Basics\\_of\\_Biophysics.pdf](http://www.fmed.uniba.sk/fileadmin/user_upload/editors/ustavy/fyzika/Literatura_2013/Basics_of_Biophysics.pdf)>.
3. KUKUROVÁ ELENA et al. Medical Physics in questions and answers. Interactive study text. Bratislava : Asklepios, 2013, 95 p. ISBN 978-80-7167-174-3. [online]. Available on Internet: <[http://www.fmed.uniba.sk/fileadmin/user\\_upload/editors/ustavy/fyzika/Literatura\\_2013/Physics\\_in\\_questions.pdf](http://www.fmed.uniba.sk/fileadmin/user_upload/editors/ustavy/fyzika/Literatura_2013/Physics_in_questions.pdf)>.
4. KOZLÍKOVÁ, K. – MARTINKA, J. Theory and tasks for practicals on medical biophysics. 1. vyd. Brno : Tribun, 2010. 248 s. ISBN 978-80-7399-881-3
5. Silverthorn D.U. Human physiology: An integrated approach. New York: Pearson, 2018, ISBN-13: 978-0-321-55980-7

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1599

A	B	C	D	E	FX
3,06	18,7	35,27	24,83	11,32	6,82

**Lecturers:** doc. RNDr. Martin Kopáni, PhD., doc. RNDr. Mgr. Katarína Kozlíková, CSc., doc. RNDr. Pavol Vitovič, PhD., doc. RNDr. Beata Čunderlíková, PhD., RNDr. Eva Kráľová, PhD., RNDr. Jaroslav Varchola, PhD., PhDr. Michal Trnka, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLChB/L-S-VLa-037/16	<b>Course title:</b> Medical Chemistry
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 36s / 36s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 7	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Conditions for practical education acceptance: - 100% attendance at the practicals - 10 written weekly tests (achieving at least 50 % total score of each test) Final exam: test Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%.	
<b>Learning outcomes:</b> Knowledge: - acquirement of knowledge about the structure, properties and functions of biologically important compounds (carbohydrates, lipids, proteins, nucleic acids, vitamins), which will enable effective study and comprehensive understanding of metabolic processes in the human body and their regulation under the physiological and pathophysiological conditions - obtaining the knowledge of the biological function and possible toxicity of inorganic and organic compounds Skills: - obtaining the practical experiences in a field of physico-chemical and biochemical methods used in laboratory and clinical practice - obtaining the ability to understand the basics of metabolism and molecular mechanisms of cellular processes	
<b>Class syllabus:</b> Lectures and seminars: Chemical composition of living systems and function of biogenic elements in organism. Toxicologically important elements and compounds. Bioreactive forms of oxygen and nitrogen. Disperse systems. Chemical equilibrium in the solutions. Acids and bases, pH, buffer systems. Characteristics of redox processes. Energetics and kinetics of chemical processes. Biochemically important reactions of organic compounds. The structure, properties and biochemically important reactions of natural compounds - saccharides, lipids, proteins, nucleic acids and vitamins. Chemical modification of the structure of biomolecules and its relation to their functions. Nonenzymatic glycation in diabetes mellitus, homo- and heteropolysaccharides,	

chemical composition and function of biological membranes, regulatory importance of eicosanoids and steroids, peptide hormones and other biologically active peptides. Mutagenic reagents. Oxidative stress and antioxidative systems in organism. Enzymes – their structure and biological function, kinetics and mechanism of their action, the regulation of catalytical efficiency of enzymes in the organism. The importance and application of enzymes in medicine.

Practicals: Principles of physico-chemical methods and their practical application in laboratory diagnostics (spectrophotometry, potentiometry, chromatography). Determination of selected metal ions concentration in biological material. Determination of different factors effect on erythrocytes fragility. Preparation of solutions, measurement of body fluids pH. Qualitative and quantitative determination of important physiological and pathological metabolites (urea, glucose, ketone bodies, total lipids, malondialdehyde), Thin layer and gel chromatographies of amino acids and proteins. Determination and calculation of enzymes activities, study of effects of different factors on enzymatic activity.

**Recommended literature:**

Országhová, Z., Žitňanová, I. et al. Textbook of Medical Chemistry [online]. Bratislava: Comenius University, 2018. 299 p. ISBN 978-80-223-4512-5.

Harvey, R.A. and Ferrier, D. Lippincott's Illustrated Reviews: Biochemistry. 6th ed. J.B. Wolters Kluwer, Lippincott Williams & Wilkins, ©2013. 560 p. Lippincott Illustrated Reviews Series. ISBN 978-1-4511-7562-2

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1537

A	B	C	D	E	FX
2,6	8,91	19,45	18,09	24,4	26,55

**Lecturers:** prof. Ing. Zdeňka Ďuračková, PhD., prof. MUDr. Ladislav Turecký, CSc., doc. PharmDr. Vladimír Jakuš, CSc., prof. RNDr. Jana Muchová, PhD., prof. Ing. Ingrid Žitňanová, PhD., RNDr. Lucia Andrežalová, PhD., RNDr. Zuzana Országhová, PhD., Mgr. Lubomír Kuračka, PhD., doc. RNDr. Monika Ďurfinová, PhD., Mgr. Monika Dvořáková, PhD., doc. MUDr. Viera Rendeková, CSc., RNDr. Mgr. Marián Koláček, PhD., doc. RNDr. Eva Uhlíková, CSc., Ing. Lucia Laubertová, PhD., RNDr. Zuzana Paduchová, PhD., RNDr. Zuzana Szentesiová, PhD., Ing. Katarína Koňariková, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-044/17	<b>Course title:</b> Medical Ethics
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals Assignments: readings and written analysis, argumentative essay or seminar paper Final evaluation: - written test Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> The student - knows the basic concepts related to ethics and medical ethics, and understands the connection between philosophy and medicine; - knows scientific facts, anthropological concepts and moral theories relevant to the analysis of ethical problems in biomedicine; - understands what is meant by a holistic view of the human person, respect for human dignity in the full range of human ontogeny and respect for patient autonomy; - has an overview of current ethical issues in biomedicine and how they can be addressed. <b>Skills:</b> The student is able to - think critically; have the foundations of moral reasoning necessary for the medical profession; - distinguish key aspects of moral decision making in clinical practice; - apply general moral principles and theories to specific cases; - identify an ethical problem in medical practice, analyze it, draw conclusion and justify it.	
<b>Class syllabus:</b> General part: Medicine as a human practice at the intersection of the natural sciences and the humanities. The aims of medicine. Health and disease. Historical transformations and contemporary models of the doctor-patient relationship. Principles of communication in medical practice. Autonomy of the physician, his judgement and conscience. Basic models of ethical reasoning and	

ethical theories. Basic concepts of personhood and their implications in modern medicine. Human dignity, bodily integrity and respect for patient autonomy. Informed consent and patient rights. Competence in decision-making. Medical confidentiality. Truth and hope as part of the therapeutic process. Ethical codes, declarations, international conventions and protocols.

Special section: Ethical issues at the beginning of human life. Ethical issues in reproductive medicine. Gene therapy and genetic modification beyond treatment. Genetic testing and counselling. Ethical issues in fetal medicine, neonatology and paediatrics. Ethical issues in transplantology and intensive care medicine. Decision-making in the case of limited resources. Ethics at the end of life - suffering, pain, dying and death. Euthanasia and assisted suicide. Palliative and hospice care. Ethics of biomedical research involving human subjects. Selected aspects of ethics in psychiatry. Ethical aspects of medical care for people with disabilities, for groups at risk of poverty or social exclusion and for ageing populations. Ethical issues in times of pandemics.

**Recommended literature:**

Zwitter, M. Medical Ethics in Clinical Practice. Springer, 2019.

Williams, J.R. Medical Ethics Manual. A publication of the World Medical Association, 2015.

Jonsen, A.R., Siegler, M., Winslade, W.J. Clinical Ethics. A practical Approach to Ethical in Clinical Medicine. McGraw Hill / Medical, 2015.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1222

A	B	C	D	E	FX
36,82	31,42	16,86	7,77	5,97	1,15

**Lecturers:** Mgr. Mária Kolesárová, PhD., doc. MUDr. Vojtech Ozorovský, CSc., MUDr. Mária Mojzešová, PhD., MUDr. Ján Štvrtina, PhD., Jakub Betinský, MUDr. Lucia Krčméryová

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.PK/L-S-VLa-090/21	<b>Course title:</b> Medical Psychology and Communication
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 10s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% completion of practicals <b>Exam:</b> - written exam (minimum 60%) Test results: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % or less. The overall evaluation will be assigned based on the score on the written exam.	
<b>Learning outcomes:</b> Knowledge: Basics of general and developmental psychology. Psychology of personality and personality mechanisms. Psychology of patient, doctor, and healthcare environment. Psychological aspects of clinical examination and treatment, social communication, communication abilities, Assertivness. Skills: Being able to: Identify individual mental functions and the importance of their changes in disease states. Identify personality mechanisms important for communication with the patient. Apply general principles and techniques of communication in interaction with the patient and his close persons. Identify factors that determine the course of communication in clinical practice in relation to the individual characteristics of the patient. Use communication skills in the clinical examination of the patient and in solving difficult situations.	
<b>Class syllabus:</b> Medical psychology. Structure of psychic functions and personality – traditional and modern approaches. Developmental stages and their specifics. Psychological hygiene. Factors influencing patient`s coping with illness. Model demonstrations of patient`s attitudes towards disease and selected clinical and psychological problems. Psychological aspects of interviewing and treatment. Psychological aspect of healthcare environment. Communication in medicine, specific characteristics of communication in clinical practice. Practical training of techniques and principles of communication with patients – children and adults. Life events and coping.	
<b>Recommended literature:</b>	

Žucha, I. et al.: Medical Psychology. Bratislava: Univerzita Komenského, 2013, 92 pp., ISBN 978-80-223-3371-9.

Ayer, W. A. (2005). Psychology and Dentistry: Mental Health Aspects of Patient Care. Psychology Press. 174 pp., ISBN: 978-0-7890-2296-7 – Book is available via ProQuest

Freeman, R. (1999). Communicating effectively: Some practical suggestions. British Dental

Journal, 187(5), 240–244. <https://doi.org/10.1038/sj.bdj.4800251>

<http://www.wanterfall.com./Downloads/Communication.pdf>

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 344

A	B	C	D	E	FX
2,33	37,5	42,73	13,66	2,62	1,16

**Lecturers:** prof. MUDr. Ján Pečeňák, CSc., doc. MUDr. Ľubomíra Izáková, PhD., doc. PhDr. Eva Morovicsová, PhD., MPH, doc. MUDr. Jana Trebatická, PhD., doc. MUDr. Mária Kráľová, CSc.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S-VLa-140/19	<b>Course title:</b> Medical Statistics
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚSLLE/L-S-VLa-065/19 - Social Medicine	
<b>Course requirements:</b> Continuously: - Active participation in lectures – weight 0.1 - Passing continuous written tests (at least 60 %) – weight 0.2 Final exam: - Passing the final written test (at least 60 %) - weight 0.4 - Oral exam - presentation of selected topic - weight 0.3 Test rating: A: 91 % – 100 %, B: 81 % – 90 %, C: 73 % – 80 %, D: 66 % – 72 %, E: 60 % – 65 %, Fx: 59 % - 0 %. The overall rating is determined from the weighted average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: Upon successful completion of the course, students should be able to select and use a suitable method for statistical processing of medical data obtained from small-scale measurements and large studies as well as their correct graphic presentation. Skills: Ability to use an appropriate statistical and/or graphical method to solve a particular problem.	
<b>Class syllabus:</b> Measurement and statistical data processing in medicine. Probability and random variables. Population, sample, statistical variable. Descriptive Statistics - sample characteristics. Theoretical probability distributions and their application to biomedical measurements. Outliers. Inductive Statistics - hypothesis testing for one or two samples, paired and unpaired comparisons - parametric and nonparametric tests, confidence intervals. Testing of related data - regression and correlation. Categorical data testing - contingency tables. Comparing multiple samples, monitoring the impact of factors - analysis of variance. Survival analysis - survival curve, time series. Principles of discriminatory and cluster analysis. Data interpretation - use of statistical tables. Graphic presentation of data. Graphical and statistical data processing using a computer. Criteria for choosing the appropriate test and the appropriate graph.	

**Recommended literature:**

- SMITH, D. J. Basic Statistical Techniques for Medical and Other Professionals: A Course in Statistics to Assist in Interpreting Numerical Data. New York : Routledge, 2022. 137 p. ISBN 978-1-032-11495-8.
- BOWERS, D. Medical Statistics from Scratch. An Introduction for Health Professionals. 4th ed. Hoboken - Chichester: Blackwell Wiley , 2020, 498 p. ISBN 978-111952394X – selected chapters.
- Lectures on the MEFANET FM CU portal - section Biophysics (<http://portal.fmed.uniba.sk/>).
- Blended e-course ([www.moja.uniba.sk](http://www.moja.uniba.sk)).
- Other innovated printed and internet sources available.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 3

A	B	C	D	E	FX
33,33	33,33	33,33	0,0	0,0	0,0

**Lecturers:** doc. RNDr. Mgr. Katarína Kozlíková, CSc.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.MÚ/L-S-VLa-045/17	<b>Course title:</b> Microbiology 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚLBG/L-S-VLa-007/16 - Biology and Human Genetics 2	
<b>Course requirements:</b> - 100% attendance at the practicals - 100% attendance at the lectures if on-line - 2 written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Knowledge on the morphology, structure and physiology of microorganisms, their genetic processes important in human medicine, virulence factors, the relationship between microorganisms and humans, human microbiota, the pathogenicity of microorganisms to humans, the mechanisms of establishment, development and complications of infectious diseases, interaction of microorganisms with the human immune system. Knowledge on the fight against microorganisms and prevention of infectious diseases (disinfection, sterilization, antimicrobial drugs). Information on the particular bacterial, viral, prion, fungal and parasitic agents of human infectious diseases. Overview of types of biological specimens for microbiological diagnostics and methods of their transport; overview of microbiologic diagnostic methods. Basic algorithms for detection and identification of medically important bacteria, fungi, viruses and parasites. <b>Skills:</b> Collection of biological specimens for microbiologic examination. Preparation and evaluation of microscopic preparations from biological specimens and from pure cultures of bacteria and fungi. Detection of microbial antigens in biological samples by rapid diagnostic tests. Inoculation of biological specimens on culture media, evaluation of bacterial growth on selective and diagnostic culture media, isolation of bacteria in pure culture. Performing and evaluation of simple biochemical and serological identification tests. Performing, evaluation and interpretation of antimicrobial susceptibility tests. Evaluation and interpretation of serological tests detecting specific antibodies	

against infectious agents. Performing, evaluation and interpretation of selected tests for detection and identification of bacteria, viruses, fungi and parasites.

**Class syllabus:**

Lectures:

Basic characteristics of microorganisms. Interaction of microorganisms and humans. The human microbiota. Establishment and course of microbial diseases.

Morphology, anatomy, metabolism, growth and multiplication of bacteria. Taxonomy and systematics of bacteria. Genetics of bacteria, bacteriophages. Molecular basis of bacterial pathogenicity and virulence. The role of biofilm and persistence of microorganisms in human medicine. Basic information on bacterial interaction with the human immune system. Decontamination, disinfection and sterilization. Antimicrobial drugs. Side effects of antimicrobial drugs. Antibacterial drugs and antimicrobial resistance mechanisms. Medically important bacteria. Structure and classification of viruses, replication of viruses, genetics of viruses. Antivirals. Viral infection at the level of the cell and the organism. Pathogenesis of viral infections and basic information about the interaction of viruses with the human immune system. DNA viruses and RNA viruses important for human medicine. Prions. Brief overview of taxonomy and systematics of medically important micromycetes, their morphology and physiology, pathogenicity and virulence. Pathogenesis of fungal infections and interaction of micromycetes with the human immune system. Antifungals. Agents of superficial, subcutaneous and systemic mycoses. A brief overview of the taxonomy and systematics of medically important parasites. General characteristics of human parasitoses agents. Epidemiology and prevention of parasitoses. Interaction of parasites with the human immune system. Antiparasitics. Overview of medically important parasitic protozoa and worms.

Practical exercises, seminars:

Safety rules in the laboratory of clinical microbiology. Clinical microbiology laboratory equipment. Basic algorithm of direct and indirect microbiologic diagnostics. Collection and transport of specimens for microbiologic diagnostics. Microscopic examination of clinical specimens (wet-mount, fixed preparation, monochromatic staining, diagnostic staining). Types of clinical specimens regularly examined by microscopy; information provided by microscopic examination. Detection of microbial antigens in clinical specimens. Microbial genome detection in clinical specimens. Microbial culture methods. Evaluation of the culture results and information provided by the microbial culture techniques. Bacteria that are not cultivable on laboratory culture media. Identification of bacteria - microscopic and biochemical; serotyping, identification by mass spectrum analysis (MALDI-TOF MS), identification by genome analysis (gene probes, PCR, sequencing). Antimicrobial susceptibility testing by disk diffusion test and dilution tests, interpretation of results. Detection of resistance mechanisms by phenotypic and genotypic methods. Indirect microbiologic diagnostics - collection of specimens for antibody detection; detection of antibodies by immunochemical methods - agglutination, precipitation, immunochromatographic tests, ELISA and immunofluorescence tests; confirmation of results by Western blot. Antibody quantification. Interpretation of antibody tests results. Detection of cell-mediated immunity - IGRA tests.

Basic algorithms for identification of gram-positive bacteria, gram-negative bacteria, fastidious and non-cultivable bacteria. Microbiologic diagnostics of viral, fungal and parasitic agents of human diseases.

**Recommended literature:**

Goering, R. et al.: Mims' Medical Microbiology and Immunology 6th ed, Elsevier, 2018, 568pp.  
Murray, P.R. et al.: Medical Microbiology, 9th Edition, Elsevier, 2020. 872 pp.

Liptáková, A. et al.: Microbiological diagnostics for students of medicine. Bratislava, Univerzita Komenského v Bratislave , 2018, 246 pp.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1108

A	B	C	D	E	FX
25,81	37,18	23,65	6,32	2,26	4,78

**Lecturers:** doc. RNDr. Nasir Ahmad Jalili, CSc., MPH, doc. MUDr. Adriana Liptáková, PhD., MPH, doc. RNDr. Lívia Slobodníková, CSc., Mgr. Zuzana Hubenáková, PhD., RNDr. Lucia Janošíková, MUDr. Ján Koreň, PhD., Mgr. Marek Straka, PhD., Mgr. Hana Dibalová, PhD., RNDr. Martina Dubinová, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.MÚ/L-S-VLa-046/18	<b>Course title:</b> Microbiology 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 5.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.MÚ/L-S-VLa-045/17 - Microbiology 1	
<b>Course requirements:</b> - 100% attendance at the practicals - 100% attendance at the lectures if on-line - 1 written test (minimum 60% of correct answers) and practical exam: two practical questions <b>Final exam:</b> - written test - theoretical exam: 3 questions (general microbiology, special microbiology, basics of clinical microbiology) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Knowledge of the microbiota and the causative agents of infectious diseases of individual organs and organ systems, the method of transmission of infectious agents, the most important virulence factors that apply to individual types of infectious diseases and the predisposing factors that support the emergence of these diseases. Knowledge of the use of the results of microbiological examinations in the prevention and treatment of infectious diseases of individual organs and organ systems; knowledge of active and passive immunization and immunomodulators of microbial origin. Knowledge about the collection and transport of material in infectious diseases of individual organs and organ systems and the algorithms of microbiological diagnostics of these diseases. <b>Skills:</b> Evaluation of microbiological tests, which are used in the diagnosis of infectious diseases of individual organs and organ systems, and interpretation of the results of microbiological examination on the example of individual model patients using simulators and case reports.	
<b>Class syllabus:</b> <b>Lectures:</b> Introduction to clinical microbiology. Algorithm for microbiological diagnostics of infectious diseases. Microbiological data for targeted antibiotic treatment. Brief overview of anti-infective	

immunity. Active and passive immunization. Immunomodulators of microbial origin. Microbiota of respiratory tract; upper and lower respiratory tract infections. Gastrointestinal mucosa microbiota; gastrointestinal tract infections; liver and biliary tract infections. Microbiota of the uropoietic system mucosa; uropoietic system infections. Microbiota of the skin and skin glands; skin, wound and soft tissue infections. Infectious osteomyelitis and arthritis. Infections caused by anaerobic bacteria. Bacteremia, sepsis, cardiovascular infections, endocarditis. Neuroinfections. Conjunctive microbiota; infections of the eye and its supporting tissues. Microbiotic mucosa of the genital tract; sexually transmitted infections and other infections of the genital system. Fetal and neonatal infections - congenital, perinatal and neonatal. Specifics of infectious diseases during pregnancy and after childbirth. Screening for infectious diseases during pregnancy. Immunocompromised patient infections. Infections associated with the presence of a foreign body and biofilm formation. Epidemiology and infection prevention. Nosocomial infections. Infections caused by resistant bacteria. Principles of rational use of antimicrobial drugs. Bioterrorism and diagnostics of biological agents during biological weapons threats.

Practical exercises, seminars:

Critical aspects of collection of biological material and transport for microbiological examination. Basic algorithm of microbiological diagnostics of infectious diseases. Methods of rapid microbiological diagnostics and their importance for the treatment of the patient and for the prevention of the spread of dangerous diseases. Microbiological diagnostics of respiratory tract infections, gastrointestinal system, uropoietic system, infectious skin diseases, wound infections, soft tissues, bones and joints. Microbiological diagnosis of infections caused by anaerobic bacteria. Microbiological diagnosis of septic conditions and infectious endocarditis, neuroinfections and eye infections. Microbiological diagnosis of infections of the genital system, infections of the fetus and newborn. The role of microbiological examination during pregnancy in the prevention of congenital infections. Microbiological diagnosis of foreign body infections and the presence of biofilm. Microbiological diagnosis of infectious diseases of an immunocompromised patient.

**Recommended literature:**

Goering, R. et al.: Mims' Medical Microbiology and Immunology 6th ed, Elsevier, 2018, 568pp.  
 Murray, P.R. et al.: Medical Microbiology, 9th Edition., Elsevier, 2020. 872 pp.  
 Liptáková, A. et al.: Microbiological diagnostics for students of medicine. Bratislava, Univerzita Komenského v Bratislave , 2018, 246 pp.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 845

A	B	C	D	E	FX
30,3	21,07	14,44	10,89	10,41	12,9

**Lecturers:** doc. MUDr. Adriana Liptáková, PhD., MPH, doc. RNDr. Nasir Ahmad Jalili, CSc., MPH, doc. RNDr. Lívia Slobodníková, CSc., Mgr. Zuzana Hubenáková, PhD., MUDr. Ján Koreň, PhD., Mgr. Marek Straka, PhD., Mgr. Hana Dibalová, PhD., RNDr. Martina Dubinová, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S-VLa-142/19	<b>Course title:</b> Modern Biophysics: From nanoparticles to quantum brain
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Continuously: - Active participation in lectures Final exam: - Semestral project submission Test rating: A: 91 % – 100 %, B: 81 % – 90 %, C: 73 % – 80 %, D: 66 % – 72 %, E: 60 % – 65 %, Fx: 59 % and less.	
<b>Learning outcomes:</b> Knowledge: to gain information on „the state of art“ knowledge in the areas of modern medicine, where experimental and diagnostic methods based on physical theories are heavily used. Students gain knowledge on theory of physical principles and phenomena will be taught through recent scientific works. Artificial intelligence in medicine, how it works, what is its potential usage and where lie its limits. Skills: basic level of working with brain modelling software Neuron, electron microscope	
<b>Class syllabus:</b> Introduction to modern physics, Bio-magnetism, Nanoparticles, Physical processes in human brain, DNA and chemical bonds, thermodynamics, entropy and the arrow of time, bioenergetics, experimental methods in biophysics, artificial intelligence, Machine Learning, structure of consciousness, quantum brain	
<b>Recommended literature:</b> 1. Davidovits, P. Physics in Biology and Medicine. San Diego, Elsevier, 2008, ISBN 978-0-12-369411-9 2. Hrazdira I, Morstein V, Škorpíková J. Lekářská biofyzika a přístrojová technika. Brno, Neptun, 2006, ISBN 80-86850-01-3	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 17					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> doc. RNDr. Martin Kopáni, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S- VL a-142-5/22	<b>Course title:</b> Modern Biophysics: From nanoparticles to quantum brain
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - Active participation in lectures Final exam: - Semestral project submission Test rating: A: 91 % – 100 %, B: 81 % – 90 %, C: 73 % – 80 %, D: 66 % – 72 %, E: 60 % – 65 %, Fx: 59 % and less.	
<b>Learning outcomes:</b> Knowledge: to gain information on „the state of art“ knowledge in the areas of modern medicine, where experimental and diagnostic methods based on physical phenomena are applied. Students gain the brief theory on physical principles and phenomena across modern works and papers, which are beyond biological processes. Artificial intelligence in medicine, basic principles, function, its limits, pros and cons. Skills: basic level of software Neuron, electron microscopy	
<b>Class syllabus:</b> Introduction to modern physics, Bio-magnetism, Nanoparticles, Physical processes in human brain, DNA and chemical bonds, thermodynamics, entropy and the arrow of time, bioenergetics, experimental methods in biophysics, artificial intelligence, Machine Learning, structure of consciousness, quantum brain	
<b>Recommended literature:</b> 1. Davidovits, P. Physics in Biology and Medicine. San Diego, Elsevier, 2008, ISBN 978-0-12-369411-9 2. Hrazdira I, Morstein V, Škorpíková J. Lekárska biofyzika a prístrojová technika. Brno, Neptun, 2006, ISBN 80-86850-01-3	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 11					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> doc. RNDr. Martin Kopáni, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-145-5/22	<b>Course title:</b> Nemecký jazyk 1
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the assessment of the written part of the exam) and one exam test (100 points, makes 85% of the assessment of the written part of the exam). Oral part of the exam – discussion on a selected professional topic. Test assessment: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall grade (minimum of 60%) is determined by the weighted average of the grades obtained in the midterm (15%) and exam (85%) test and the result of the oral part of the exam.	
<b>Learning outcomes:</b> Knowledge: Acquisition of professional vocabulary from individual medical fields; deepening of knowledge in the field of morphology of a foreign language. Correct use of syntax when preparing lectures, papers and presentations. Skills: Language competence enabling the highest possible level of obtaining information and knowledge from foreign language sources; written and oral presentation of own knowledge and opinions in a foreign language; ability to communicate with the patient; ability to understand oral speech, lectures on professional medical topics.	
<b>Class syllabus:</b> Anatomy and the medical profession - vocabulary (body parts, organs, structures), expression of opinion and assumptions. Hospital - departments, processes, equipment, staff and their roles, relative sentences. Oncology - diagnosis and treatment procedures, prepositions. Infectology - description of symptoms, information retrieval and summarizing. Trauma medicine - first aid, the past participle. Emergency medicine - case studies, adjectives. Urology - most common urological problems and their treatment, summarising texts. Endocrinology - thyroid diseases, compound nouns. Cardiology - high blood pressure, heart attack, formation of nouns from verbs. Dermatology - skin and vascular diseases, subordinate clauses. Ophthalmology - diseases of the eyes, gradation of adjectives. Sports medicine - musculoskeletal diseases and injuries, genitive case. Rehabilitation medicine - patient roles and communication, past tenses.	

**Recommended literature:**

Ivanová, A., Hromadová, K.: Deutsch für medizinische Berufe. Bratislava: Univerzita Komenského 2013. 262 p. ISBN 978-80-223-3400-6  
Wortberg, Ch.: Menschen im Beruf – Medizin B2/C1, Kursbuch mit Audio-CD. Max Hueber Verlag 2016. 152 p. ISBN 9783197011905

**Languages necessary to complete the course:**

english, german

**Notes:****Past grade distribution**

Total number of evaluated students: 4

A	B	C	D	E	FX
50,0	25,0	25,0	0,0	0,0	0,0

**Lecturers:** PhDr. Tomáš Hamar, PhD., Mgr. Katarína Hromadová, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Lucia Lauková, PhD., Mgr. Zuzana Motešická, PhD.

**Last change:** 22.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.NK1/L-S-VLa-047/19	<b>Course title:</b> Neurology 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPA/L-S-VLa-055/18 - Pathological Anatomy 2 and LF.ÚPF/L-S-VLa-057/18 - Pathological Physiology 2	
<b>Course requirements:</b> 100 % attendance on practicals patient examination and elaboration of complete patient record, written test – minimum 70 % Test evaluation: A: 95 - 100 %, B: 89 – 94 %, C: 83 – 88 %, D: 77 – 82 %, E: 70 – 76 %, Fx: 0 - 69 % The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: morphology of nervous system, molecular mechanisms underlying nervous system activity, functional neuroanatomy, major neurologic syndromes, manifestation of nervous system disorders, principles and techniques of clinical and instrumental neurological examination Skills: mastering of technique and interpretation of clinical and instrumental neurological examination	
<b>Class syllabus:</b> architecture, organization, and functioning of nervous system, functional neuroanatomy, signs and symptoms of nervous system disorders, major neurologic syndromes, clinical neurological examination – technique and interpretation, EEG, EP, EMG, USG, CT, MRI, lumbar puncture – principles, indications and interpretation	
<b>Recommended literature:</b> Biller J et al: The Neurological Examination, 7th ed., The McGraw-Hill Companies Inc, 2016, Benarroch E et al: Mayo Clinic Medical Neurosciences, 6th ed., Mayo Clinic Scientific Press 2018	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

**Past grade distribution**

Total number of evaluated students: 641

A	B	C	D	E	FX
3,59	14,66	33,54	21,53	24,96	1,72

**Lecturers:** prof. MUDr. Peter Turčáni, PhD., prof. MUDr. Branislav Kollár, PhD., MPH, prof. MUDr. Peter Valkovič, PhD., doc. MUDr. Karin Gmitterová, PhD., doc. MUDr. Michal Minár, PhD., doc. MUDr. Jaroslav Pancák, PhD., prof. MUDr. Marek Sýkora, PhD., doc. MUDr. Pavel Šiarnik, PhD., prof. MUDr. Stanislav Šutovský, PhD., doc. MUDr. Gabriela Timárová, PhD., MPH, MUDr. Zoltán Goldenberg, PhD., doc. MUDr. Katarína Klobučniková, PhD., MUDr. Marián Kondáš, PhD., MUDr. Jozef Szabó, PhD., MUDr. Iveta Lisá, CSc.

**Last change:** 30.11.2022**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.NK1/L-S-VLa-048/19	<b>Course title:</b> Neurology 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 26s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.NK1/L-S-VLa-047/19 - Neurology 1	
<b>Course requirements:</b> - 100% attendance at the practicals - 2 written test (minimum 70% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: 3 question (general examination, special systems, laboratory test) <b>Test evaluation:</b> A: 95 - 100 %, B: 89 – 94 %, C: 83 – 88 %, D: 77 – 82 %, E: 70 – 76 %, Fx: 69 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> etiopathogenesis, clinical manifestation, diagnosis and treatment of various neurological diseases, headaches and cranial neuralgia syndromes, neurodegenerative diseases, vertebrogenic diseases, neurooncology, craniocerebral injuries, demyelinating diseases, neurological complications of systemic and metabolic diseases <b>Skills:</b> Identification of symptoms and signs of the most common neurological diseases, determination of syndromology, proposal of diagnostic management, interpretation of ancillary examinations in the context of clinical settings, clinical diagnosis, preparation of a therapeutic plan	
<b>Class syllabus:</b> cerebrovascular diseases, paroxysmal disorders, headache and cranial neuralgia syndromes, neurodegenerative diseases, vertebrogenic diseases, neurooncology, craniocerebral injuries, neuroinflammatory diseases , demyelinating diseases, diseases of peripheral nervous system, neuromuscular disorders, neurological complications of systemic and metabolic diseases	
<b>Recommended literature:</b> Bloom, David: Clinical Adult Neurologie Manji: Oxford Handbook of Neurology Mumenthaler and Mattle: Neurologie/Neurology	

Lectures in MS TEAMS, web sources PUBMED, SCOPUS, WEB of SCIENCE					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 550					
A	B	C	D	E	FX
0,36	4,36	22,91	38,0	30,73	3,64
<b>Lecturers:</b> prof. MUDr. Peter Turčáni, PhD., prof. MUDr. Branislav Kollár, PhD., MPH, prof. MUDr. Peter Valkovič, PhD., doc. MUDr. Michal Minár, PhD., doc. MUDr. Jaroslav Pancák, PhD., prof. MUDr. Marek Sýkora, PhD., prof. MUDr. Stanislav Šutovský, PhD., doc. MUDr. Gabriela Timárová, PhD., MPH, MUDr. Zoltán Goldenberg, PhD., MUDr. Marián Kondáš, PhD., MUDr. Iveta Lisá, CSc., doc. MUDr. Pavel Šiarnik, PhD.					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-051/16	<b>Course title:</b> Nursing 1
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 18s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals - 3 written test (minimum 60% of correct answers) Final exam: written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%.	
<b>Learning outcomes:</b> The aim of the subject is to obtain knowledge and basic practical skills of professional procedures in patient nursing care. <b>Knowledge:</b> - basic principles of providing nursing care - knowledge of the patient's' medical records - knowledge necessary for the practical implementation of particular nursing procedures <b>Skills:</b> - safe working habits when providing nursing care - skills for providing basic nursing care - skills for vital signs monitoring - skills for collecting biological material for examination - skills for the administration of different forms of medication	
<b>Class syllabus:</b> Basic principles of providing nursing care. Cooperation of physicians and nurses in the treatment of patient. Nurses' competencies. Nursing care management at outpatient and inpatient departments. Patient nursing care documentation. Care of the patients' basic needs. Safety of healthcare workers. Patient's safety. Patient's mobility. Vital signs monitoring. Care of urinary elimination. Bowel care. Specimen collection. Drug administration: topical, enteral, parenteral administration. Oxygen therapy. Practical exercises (simulations and training professional procedures): Procedures of hand hygiene in healthcare. Use of personal protective equipment in patient care. Patient nursing care documentation. Patient positioning. Vital signs monitoring. Specimen	

collection (venous and capillary blood collection, swab collection, other sampling types). Urinary catheterization. Enema administration. Drug administration - topical, enteral administration. Oxygen administration.					
<b>Recommended literature:</b> Grežd'ová, I., Polhorská, M. 2018. Professional nursing procedures 1. Textbook for general medicine study programme. First edition. Slovak Academic Press s.r.o., Bratislava, 2018. 110 p. Polhorská, M. Grežd'ová, I., 2018. Professional nursing procedures 2. Textbook for general medicine study programme. 1st edition. Slovak Academic Press s.r.o., Bratislava, 2018. 104 p.					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 1595					
A	B	C	D	E	FX
26,21	22,82	19,37	16,99	13,79	0,82
<b>Lecturers:</b> doc. PhDr. Anna Mazalánová, PhD., PhDr. Iveta Grežd'ová, PhD., PhDr. Miriam Polhorská, PhD.					
<b>Last change:</b> 29.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-100/17	<b>Course title:</b> Nursing 1 - practice
<b>Educational activities:</b> <b>Type of activities:</b> practice <b>Number of hours:</b> <b>per week: per level/semester:</b> 40s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚSLLE/L-S-VLa-052/16 - Nursing 2	
<b>Course requirements:</b> 100% clinical practise attendance	
<b>Learning outcomes:</b> The aim of the subject is to obtain knowledge and practical skills from nursing care in inpatient internal departments. Clinical training of students is provided under the supervision of the head of the department and the head nurse. <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- knowledge of nursing care conditions in internal department</li> <li>- knowledge of the patient's' medical records</li> <li>- knowledge necessary for the practical implementation of particular nursing procedures</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- safe working habits in internal department</li> <li>- skills for providing basic nursing care</li> <li>- skills for vital signs monitoring</li> <li>- skills for collecting biological specimens</li> <li>- skills for the administration of different medication forms</li> </ul>	
<b>Class syllabus:</b> Care of patient's basic needs. Vital signs monitoring. Blood specimen collection. Urine specimen collection. Collection of other types of biological specimen. Assistance with urinary catheterization. Assistance with enema administration. Drug administration - topical, enteral, parenteral administration. Oxygen therapy. Injection administration - intradermal, subcutaneous, intramuscular, intravenous. Intravenous cannulation. Administration of infusion therapy.	
<b>Recommended literature:</b> Grežd'ová, I., Polhorská, M. 2018. Professional nursing procedures 1. Textbook for general medicine study programme. First edition. Slovak Academic Press s.r.o., Bratislava, 2018. 110 p. Polhorská, M. Grežd'ová, I., 2018. Professional nursing procedures 2. Textbook for general medicine study programme. 1st edition. Slovak Academic Press s.r.o., Bratislava, 2018. 104 p.	
<b>Languages necessary to complete the course:</b>	

english
<b>Notes:</b>
<b>Past grade distribution</b> Total number of evaluated students: 904
ABS0
100,0
<b>Lecturers:</b> PhDr. Iveta Grežd'ová, PhD., PhDr. Miriam Polhorská, PhD.
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-052/16	<b>Course title:</b> Nursing 2
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 18s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚSLLE/L-S-VLa-051/16 - Nursing 1	
<b>Course requirements:</b> - 100% attendance at the practicals - 3 written test (minimum 60% of correct answers) Final exam: written test (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%.	
<b>Learning outcomes:</b> The aim of the subject is to obtain knowledge and basic practical skills of professional procedures in patient nursing care. <b>Knowledge:</b> - basic knowledge of parenteral drug administration - principles of intravenous fluid therapy - principles of wound treatment - knowledge necessary for the practical implementation of particular nursing procedures <b>Skills:</b> - safe working habits when providing nursing care - skills for injection administration - skills for administering intravenous fluid therapy - skills for wound treatment	
<b>Class syllabus:</b> Principles of parenteral drug administration. Principles of injection administration: intradermal, subcutaneous, intramuscular, intravenous. Principles of intravenous fluid therapy. Principles of intravenous cannulation. Infusion therapy administration. Principles of blood transfusion therapy preparation and administration. Cooperation of physicians and nurses in wound treatment. Patient safety. Principles of wound treatment. Bandaging principles. Practical exercises (simulations and training professional procedures): Preparing and administering injections (intradermal, subcutaneous, intramuscular, intravenous). Preparing infusion container. Intravenous cannulation. Administration of infusion therapy.	

Assistance with blood transfusion therapy. Basic aseptic techniques in wound treatment. Assistance with wound treatment and redressing. Bandages application.

**Recommended literature:**

Grežd'ová, I., Polhorská, M. 2018. Professional nursing procedures 1. Textbook for general medicine study programme. First edition. Slovak Academic Press s.r.o., Bratislava, 2018. 110 p. Polhorská, M. Grežd'ová, I., 2018. Professional nursing procedures 2. Textbook for general medicine study programme. 1st edition. Slovak Academic Press s.r.o., Bratislava, 2018. 104 p.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1343

A	B	C	D	E	FX
27,25	23,53	18,39	16,38	14,0	0,45

**Lecturers:** doc. PhDr. Anna Mazalánová, PhD., PhDr. Iveta Grežd'ová, PhD., PhDr. Miriam Polhorská, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-101/18	<b>Course title:</b> Nursing 2 - practice
<b>Educational activities:</b> <b>Type of activities:</b> practice <b>Number of hours:</b> <b>per week: per level/semester:</b> 40s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at clinical practice	
<b>Learning outcomes:</b> The aim of the subject is to obtain knowledge and practical skills in nursing care in inpatient surgical departments. Clinical training of students is provided under the supervision of the head of the department and of the head nurse. <b>Knowledge:</b> - knowledge of nursing care conditions in surgical department - knowledge of the patient's' medical records - knowledge necessary for the practical implementation of particular nursing procedures in surgical department <b>Skills:</b> - safe working habits in surgical department - skills for vital signs monitoring - skills for specimen collection - skills for administration of different medication forms - skills for wounds treatment and redressing	
<b>Class syllabus:</b> Vital signs monitoring. Blood specimen collection. Urine specimen collection. Collection of other types of biological specimen. Assistance with urinary catheterization. Care for patients with permanent catheter. Assistance with enema administration. Drug administration - topical, enteral, parenteral administration. Preparing and administering injections (intradermal, subcutaneous, intramuscular, intravenous). Intravenous cannulation. Administration of infusion therapy. Oxygen therapy. Assistance with blood transfusion therapy. Preparing and assisting with wound treatment and redressing. Bandages application.	
<b>Recommended literature:</b> Grežďová, I., Polhorská, M. 2018. Professional nursing procedures 1. Textbook for general medicine study programme. First edition. Slovak Academic Press s.r.o., Bratislava, 2018. 110	

p. Polhorská, M. Grežd'ová, I., 2018. Professional nursing procedures 2. Textbook for general medicine study programme. 1st edition. Slovak Academic Press s.r.o., Bratislava, 2018. 104 p.
<b>Languages necessary to complete the course:</b> english
<b>Notes:</b>
<b>Past grade distribution</b> Total number of evaluated students: 642
ABS0
100,0
<b>Lecturers:</b> PhDr. Iveta Grežd'ová, PhD., PhDr. Miriam Polhorská, PhD.
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KOH/L-S-VLa-149/21	<b>Course title:</b> Oncohematology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 80 % attendance at the seminars - 1 written test at final exam (minimum 60% of correct answers) <b>Final exam:</b> - test exam + theoretical exam: 1 question (according to syllabus) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge:</b> basic diagnostics in haematological malignancies, treatment principles in patients with leukaemia, lymphoma, multiple myeloma; basics of supportive therapy; understanding of specific features of oncohaematology <b>Skills:</b> to propose basic diagnostic and therapeutic algorithm for the patients with haematological cancer; to identify clinical specific features of patient	
<b>Class syllabus:</b> - Biology of hematological malignancies - Basics of diagnostic methods in oncohematology - Treatment principles (general and specific) - Acute leukemias (myeloid and lymphatic) - Chronic leukemias (myeloid and lymphatic) - Malignant lymphomas and multiple myeloma - Supportive care	
<b>Recommended literature:</b> Rodgers GP and Young NS: Clinical Hematology, 4th ed., Wolters Kluwer 2019 Farkas F: Acute Myeloid Leukemia and related neoplasms. Comenius University Press 2021	
<b>Languages necessary to complete the course:</b> english	

<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 24					
A	B	C	D	E	FX
79,17	16,67	4,17	0,0	0,0	0,0
<b>Lecturers:</b> doc. MUDr. Ľuboš Drgoňa, CSc.					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.OnK1/L-S-VLa-050/19	<b>Course title:</b> Oncological Propedeutics
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 11s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPA/L-S-VLa-055/18 - Pathological Anatomy 2 and LF.ÚPF/L-S-VLa-057/18 - Pathological Physiology 2	
<b>Course requirements:</b> 100% attendance at the practicals Final exams: 1 written test (minimum 60 % of correct answers) Test evaluation: A: 91 - 100 %, B: 81 - 90 %, C: 73 - 80 %, D: 66 - 72 %, E: 60 - 65 %, Fx: 59 - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> General oncology: theoretical knowledge of cancer biology, tumour immunology, etiology, epidemiology, screening and prevention of tumours. Knowledge of medical documentation in oncology. Clinical research in oncology. Basic symptomatology and principles of cancer diagnostics and evaluation of the treatment response. Basic knowledge of therapeutic methods in oncology – surgery, radiotherapy, systemic therapy. Supportive and palliative care. Psychosocial support. Special oncology: epidemiology, etiology, pathology, symptomatology, diagnostics, therapy and prognosis of selected groups of cancer: head and neck cancers, cancers of the respiratory organs and mediastinum, gastrointestinal tumours, genitourinary tumours, gynaecological malignancies, breast cancer, bone and soft tissue tumours, skin cancer, endocrine neoplasms, CNS malignancies, carcinoma of unknown primary, haematological oncology, rare cancers, AIDS-associated malignancies, Tumours of childhood and adolescence. Cancer and pregnancy. Geriatric oncology. <b>Skills:</b> History taking, examination of oncological patient, acquaintance with medical documentation of oncological patient	
<b>Class syllabus:</b> Basics of general and special oncology.	
<b>Recommended literature:</b> Špáňik, S., Balogová, S., Beržinec, P., Boboková, J., Durdík, Š., Gočárová, K. et al.: Introduction to Clinical Oncology. Bratislava: UK v Bratislave, 2021, 406 s.	

ISBN 978-80-223-4988-8.					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 509					
A	B	C	D	E	FX
13,16	30,45	33,4	18,47	4,13	0,39
<b>Lecturers:</b> prof. MUDr. Dalibor Ondruš, DrSc., prof. MUDr. Stanislav Špánik, PhD., doc. MUDr. Lýdia Heľpianská, CSc., MUDr. Ivana Krajčovičová, PhD., MUDr. Bela Mriňáková, PhD., MPH, MHA					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KO/L-S-VLa-049/20	<b>Course title:</b> Ophthalmology
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9., 10..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals - 2 written test (minimum 60% of correct answers) <b>Final exam:</b> - theoretical exam: 3 questions (general examination, special systems, laboratory test) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Acquisition of basic, theoretical and practical knowledge and skills in the field of ophthalmology of children and adults. <b>Knowledge:</b> Basic problems of clinical morphology and physiology of vision. Diagnostic procedures in ophthalmology, treatment procedures. <b>Skills:</b> Day and side light examination. Eye biomicroscopy. Ophthalmoscopy direct and indirect. Examination of visual acuity, field of vision and color vision. Additional examinations in ophthalmology: ultrasound diagnostics, fluorescein angiography of retinal vessels, optical coherence tomography, basics of radiodiagnostics in ophthalmology. Problems of pedophthalmology, ophthalmogenetics, ophthalmooncology, ophthalmogerontology, ophthalmogeriatrics. Relationship between ophthalmology and other medical disciplines. General diseases and their manifestations in the eye. Screening in ophthalmology. Diseases of the auxiliary organs of the eye. Diseases of the anterior segment of the eye. Cataracts and modern cataract surgery. Diseases of the refractive system of the eye. Basics of refractive surgery. Vascular and degenerative diseases of the retina and vitreous. Basics of vitreous-retinal surgery. Glaucoma diseases. Eye traumatology. Basics of neuroophthalmology. Therapy of the eye diseases and orbital diseases. Problems of social inclusion in patients with visual impairment in the environment - assessment activity. First aid and emergencies in ophthalmology.	

<b>Class syllabus:</b> Diagnostic and therapeutic procedures in the field of ophthalmology					
<b>Recommended literature:</b> Richard A. Harper: Basic Ophthalmology: Essentials for Medical Students, , AAO, Tenth Edition, 2016					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 494					
A	B	C	D	E	FX
28,95	31,38	20,85	11,34	7,29	0,2
<b>Lecturers:</b> prof. MUDr. PhDr. Alena Furdová, PhD., MPH, prof. MUDr. Anton Gerinec, CSc., doc. MUDr. Vladimír Krásnik, PhD., doc. MUDr. Dana Tomčíková, PhD., doc. MUDr. Jana Štefaničková, PhD.					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ORLK1/L-S-VLa-053/20	<b>Course title:</b> Otorhinolaryngology
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 14s / 35s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9., 10..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> All practicals need to be attended Ability to run patient's notes Test results need to reach 60% or more correct answers in order to pass (A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less) Practical exam Final evaluation takes into consideration all partial evaluations	
<b>Learning outcomes:</b> Knowledge: Profound theoretical knowledge in anatomy and physiology of ENT organs and neighboring areas. Knowledge on etiology, pathophysiology, diagnostics and treatment of ENT pathology. Basics of pharmacology in ENT, especially in infectious diseases. Theoretical knowledge on therapeutical approaches in ENT focused on oral cavity, nose, paranasal sinuses and the neck, principles of endoscopic diagnostic and surgical techniques in ENT. Principles of physiology and pathophysiology of hearing, basic knowledge of radiology in ENT. Basics of diagnostics and treatment in ENT oncology. Practical skills: History taking, physical examination of ENT organs, otoscopy, examination of the nose and nasal cavity including endoscopy, laryngoscopy including flexible laryngoscopy, epipharyngoscopy, examination of oral cavity and oropharynx, palpation of the neck. Reading and understanding of pure tone hearing test and tympanogram, principle of the neonatal hearing screening, evaluation of the CT and MRI of paranasal sinuses and the neck. Student must be able to make the provisional diagnosis including differential diagnoses, indicate appropriate examinations and therapeutically manage the patient.	
<b>Class syllabus:</b> : Basics of anatomy and physiology of ENT organs. Standard examination methods including audiological diagnostics, neonatal screening of hearing. Symptoms of ENT diseases, diseases of ear, nose, sinuses, larynx, pharynx, oesophagus, thyroid and parathyroid glands, salivary glands and the neck. Tracheostomy, cricothyroidotomy, intubation. Tracheostomy care. Aspects of care after laryngectomy, tonsillectomy, ear and nose surgeries. ENT emergencies- choking, nose bleeds,	

bleeding from the mouth, management of inhaled and ingested foreign bodies. Management of the patient with head and neck cancer. Head and neck trauma.

**Recommended literature:**

Tedla et al.: Basic Otorhinolaryngology (Vydavatel'stvo UK, 2016, in press)

Anniko M et al.: Otorhinolaryngology, Head and Neck Surgery, Springer-Verlag Berlin Heidelberg 2010, 737 pp.

Becker, W., Naumann, H.H., Pfaltz, C.R.: Ear, Nose, and Throat Diseases. Sec. Ed. Thieme Verlag, Stuttgart, 1994, 581 s.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 510

A	B	C	D	E	FX
40,0	34,71	15,49	7,45	1,96	0,39

**Lecturers:** prof. MUDr. Milan Profant, CSc., doc. MUDr. Zuzana Kabátová, CSc., MUDr. Irina Goljerová, CSc.

**Last change:** 30.11.2022

**Approved by:**

## STATE EXAM DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.D_K/L-VLa-ŠS-4/15	<b>Course title:</b> Paediatrics
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>State exam syllabus:</b>	
<b>Last change:</b>	
<b>Approved by:</b>	

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.D_K/L-S-VLa-058/20	<b>Course title:</b> Paediatrics 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 29s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.IK5/L-S-VLa-031/19 - Internal Medicine 3 and LF.ChK1/L-S-VLa-022/19 - Surgery 2	
<b>Course requirements:</b> 1) 100% presence at practicals and seminars (20% can be excused) 2) successful completion of 1 written or online-test at end of term (successful completion with 60% of total points) Test assessment: unsuccessful Fx: 59% and less points, successful 60% and more points, assessment of successful students based on percentiles as follows: A: equal and more points than 90% of successful students B: equal and more points than 75% but < 90% of successful students C: equal and more points than 25% but < 75% of successful students D: equal and more points than worst 10% but < 25% of successful students E: points < than worst 10% of successful student Testinting in 3 rounds: 1st round compulsory for all students (the grading scale is derived from the 1st round of testing), assessment in the 2nd and 3rd round according to percentiles from the 1st round of testing	
<b>Learning outcomes:</b> <b>Knowledge:</b> Physiology of the neonate, postnatal adaptation. Periods of childhood. Anatomical and physiological peculiarities of childhood (organ systems, growth, puberty, psychomotor development, nutritions) Preventive measures in paediatrics (screening, vaccination) Symptoms of selected organ system disorders (respiratory, cardiovascular, gastrointestinal, kidney and urinary system, blood, musculoskeletal and nervous) <b>Skills:</b> Paediatric history. Fever. Physical examination of the child (infant and more senior child) incl. neurologic and musculoskeletal examination (pGALS)	

Measurement and assessment of physiological functions (weight, height, head and thorax circumference, body temperature, blood pressure, pulse rate and respiratory) incl. use of nomograms, percentiles and SDs, weight assessment before and following feeding, liquid balance, bone-age, pubertal stage (Tanner scale). Psychomotor development assessment.  
 Evaluations and interpretation of basic laboratory parameters (blood count, urine, biochemistry, acid-base balance)  
 Fluid management in children.

**Class syllabus:**

Lectures: Periods of childhood. Physiology and pathology of the newborn, postnatal adaptation, changes in the circulation. First examination and care for the newborn. Neurologic examination of the child, disorders of muscle tone and infantile cerebral paresis. Nutrition in infants - breast-feeding and formula-feeding, nutrition in older children. Malabsorption. Growth, chronic diseases and child development. Musculoskeletal examination. Disturbances of homeostasis, acute nutritional disorders, fluid therapy. Physiology and pathology of the respiratory system in children. Diagnostic and therapeutic procedures in children. Anatomy, physiological peculiarities, symptoms and examination methods of the cardiovascular, respiratory, gastrointestinal, urinary and endocrine system in children. Congenital heart anomalies, peculiarities of ECG in children.

Lecture methods: up to 30% TBL, 70% lectures, 20% co-operation with pre-clinical specialities (Dept. of Physiology LFUK, Dept. of Medical Biology, Genetics and Clinical Genetics LFUK and UNB, Institute of Microbiology LFUK and UNB)

Seminars: Physiology of the newborn. Postnatal care for the newborn. Peculiarities of childhood (growth, psychomotor development, nutrition), preventive measures in paediatrics. Anatomical and physiological peculiarities. Symptoms and examinations for diseases of selected organ systems (respiratory, cardiovascular, gastrointestinal, urinary, haematopoietic, musculoskeletal and nervous).

Seminar methods: interactive seminars using problem-based (PBL) and case-based (CBL) learning, up to 10% of study can be carried out online or as self-study for seminars and practicals with prepared recordings/study materials and recommended internet sources, respectively.

Practicals: Examination of the infant and older child (incl. weight, height, head and thoracic circumference measurement, body temperature, blood pressure, pulse and respiratory rate), interpretation of basic laboratory parameters (blood count, urine, biochemistry, acid-base balance). Fluid therapy. Fever.

Methods for practicals: 20% simulation teaching (tuition on medical simulators), medical procedure training devices, role-play

**Recommended literature:**

Kovács L. et al: Pediatric Propedeutics - Workbook for Medical Students, BUX, Bratislava, 2014, 150 s.

Lissauer T, Carroll W. Illustrated Textbook of Paediatrics, 6th Edition, Elsevier, 2021

Muntau AC. Kurzlehrbuch Pädiatrie. Urban&Fischer Elsevier 2015 (German)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 508

A	B	C	D	E	FX
16,14	13,58	39,96	13,78	16,14	0,39

**Lecturers:** prof. MUDr. Ludmila Podracká, CSc., prof. MUDr. Ingrid Brucknerová, PhD., doc. MUDr. Peter Čižnár, CSc., MUDr. Ivana Hulínková, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.D_K/L-S-VLa-059/20	<b>Course title:</b> Paediatrics 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 29s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.D_K/L-S-VLa-058/20 - Paediatrics 1	
<b>Course requirements:</b> 1) 100% presence at practicals and seminars (20% can be excused) 2) successful completion of practical exam (examination of patient) 3) successful completion of 1 written or online-test at end of term (successful completion with 60% of total points) Test assessment: unsuccessful Fx: 59% and less points, successful 60% and more points, assessment of successful students based on percentiles as follows: A: equal and more points than 90% of successful students B: equal and more points than 75% but < 90% of successful students C: equal and more points than 25% but < 75% of successful students D: equal and more points than worst 10% but < 25% of successful students E: points < than worst 10% of successful student Testinng in 3 rounds: 1st round compulsory for all students (the grading scale is derived from the 1st round of testing), assessment in the 2nd and 3rd round according to percentiles from the 1st round of testing	
<b>Learning outcomes:</b> Knowledge: Acute nutritional disorders in infants and children (dehydration, disorders of acid-base balance and their management). Acute life-threatening conditions in children. Fever. Most common disorders of organs systems according to paediatric subspecialities (neurologic, ENT, cardiac, pneumologic, gastrointestinal, urologic and nephrological, haematological, dermatological, endocrine). Most common infections of childhood. Obesity, arterial hypertension. Skills: Paediatric history. Communication with the paediatric patient and parents. Clinical physical and neurologic examination of the newborn and infant, psychomotor development assessment, body temperature measurement (rectal and axillary), vital function measurement (pulse and respiratory rate), blood pressure measurement at all ages, chemical urine examination, preparation of transfusions – blood group determination, administration of infusions, blood sampling, I.v. line placement, intraosseal line placement, nasogastric tube placement, lumbar puncture, caloric content calculation, assessment of laboratory findings: blood count and differential leukogram, biochemical	

analyses, interpretation of radiologic findings, sampling for microbiologic examinations, drug administration, pedigree compilation.

**Class syllabus:**

Lecture: Fever. Life-threatening conditions in children. Infections. Meningitis, encephalitis. Convulsions, epilepsy. Respiratory diseases (acute disorders of the respiratory tract, pneumonia, recurrent respiratory disorder, bronchial asthma, cystic fibrosis, bronchiectasis, interstitial lung diseases). Acute nutritional disorders in children. Disorders of the thyroid and parathyroid. Disorders of sexual differentiation and pubertal development, congenital adrenal hyperplasia. Obesity. Disorders of food intake. Urinary tract infection, vesicle-urethral reflux, tubulopathies. Arterial hypertension. Glomerulonephritis, nephrotic syndrome, acute and chronic renal insufficiency. Cardiology: heart failure, inflammatory heart diseases, rheumatic fever, arrhythmias. Gastroenterology: malabsorption, inflammatory bowel disease, functional GI disorders. Blood disorders - anaemia, coagulation and thrombocyte disorders. Haemato-oncologic diseases. Connective tissue disorders - juvenile idiopathic arthritis, jSLE, JDM, vasculitides. Congenital disorders. Inborn errors of amino-acid, fat and saccharide metabolism, lysosomal storage diseases. Intoxications in childhood. Drug side effects. Genetic disorders - monogenic, chromosomal aberrations.

Lecture methods: up to 30% TBL, 70% lectures, 20% co-operation with pre-clinical sub-specialities (Dept. of Physiology LFUK, Dept. of Medical Biology, Genetics and Clinical Genetics LFUK and UNB , Institute of Microbiology LFUK and UNB)

Seminars: Most frequent problems and diseases according to paediatrics subspecialities:

Neonatology: care for the physiological newborn, birth trauma, the premature and hypotrophic neonate and perinatal and neonatal complications, neonatal icterus, hemorrhagic disease of the newborn, haemolytic disease of the newborn, neonatal screening, breast-feeding.

Gastroenterology – congenital anomalies of the GI tract, malabsorption, food intolerance, nutrition in children, abdominal pain, inflammatory bowel disease

Metabolism - selected inborn errors of saccharide, amino-acid and fat metabolism. Skeletal disorders.

Immunology – development of the immune system, selected immune deficiencies, allergic diseases in children

Pneumology – congenital anomalies of the respiratory tract, most common respiratory diseases, respiratory insufficiency

Rheumatology: juvenile idiopathic arthritis, selected vasculitides, selected systemic connective tissue diseases

Cardiology – cardiologic assessment in children, congenital heart diseases

Nephrology - congenital anomalies of the urinary tract, urinary tract infections, glomerulonephritis, thrombotic microangiopathes, renal insufficiency

Endocrinology – puberty and disorders of pubertal development, disorders of sexual differentiation, disorders of the thyroid, disorders of the hypophysis and adrenal glands, growth disorders

Seminar methods: interactive seminars using problem-based (PBL) and case-based (CBL) learning, up to 10% of study can be carried out online or as self-study for seminars and practicals with prepared recordings/study materials and recommended internet sources, respectively.

Practicals: Paediatric history taking, physical examination of children of all ages, working diagnosis and differential diagnosis of paediatric diseases with patients or problem- and case-based learning

Methods for practicals: 20% simulation teaching (tuition on medical simulators): simulation of most frequent paediatric diagnoses – group training with simulators, communication skills training.

Medical procedure training on medical simulators (up to 10%): hand washing and disinfection, chemical urine examination, blood group determination, transfusion preparation, blood pressure measurement, infusion preparation and administration, blood sampling, placement of i.v. line,

intraosseal line and NG tube, lumbar puncture, s.c. and i.m. injections, chemical examination of the urine, biologic material collection for microbiologic examinations.

**Recommended literature:**

Lissauer T, Carroll W. Illustrated Textbook of Paediatrics, 6th Edition, Elsevier, 2021  
Marcdante K, Kliegman RM, Schuh AM, Nelson Essentials of Pediatrics 9th Edition, Elsevier, 2022  
Kovács L. et al: Pediatric Propedeutics - Workbook for Medical Students, BUX, Bratislava, 2014, 150 s.  
Muntau AC. Pädiatrie Hoch2. Urban&Fischer Elsevier 2018 (German)  
Muntau AC. Kurzlehrbuch Pädiatrie. Urban&Fischer Elsevier 2015 (German)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 345

A	B	C	D	E	FX
11,59	18,84	26,67	26,67	15,94	0,29

**Lecturers:** prof. MUDr. Ľudmila Podracká, CSc., prof. MUDr. Ingrid Brucknerová, PhD., doc. MUDr. Tomáš Dallos, PhD., doc. MUDr. Peter Čižnár, CSc., doc. MUDr. Ľudmila Košťálová, CSc., doc. MUDr. Peter Olejník, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.D_K/L-S-VLa-060/21	<b>Course title:</b> Paediatrics 3
<b>Educational activities:</b> <b>Type of activities:</b> seminar / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 64s / 280s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 14	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.D_K/L-S-VLa-059/20 - Paediatrics 2	
<b>Course requirements:</b> 1) 100% presence at practicals and seminars (20% can be excused) with documented presence 2) successful completion of practical exam (examination of patient, model medical record and presentation of a case study at a student seminar) 3) successful completion of 1 written or online-test at end of teaching block (successful completion with 80% of total points), unsuccessful students may repeat max. twice Test assessment: unsuccessful Fx: $\leq 59\%$ points, successful 60% points, assessment of successful students based on percentiles as follows: A: $\geq 90\%$ of successful students; B: $\geq 75\%$ but $< 90\%$ of successful students; C: $\geq 25\%$ but $< 75\%$ of successful students; D: $\geq 10\%$ but $< 25\%$ of successful students; E: points $<$ than 10% of successful students. State exam: theory testing, 3 topics, examination board with at least 3 members	
<b>Learning outcomes:</b> Knowledge: Theoretical knowledge in the field of neonatal physiology, physiology of child growth and development. Physiological changes in the maturation of individual organ systems. Diagnosis and treatment of pathological conditions of neonatal age. Fluid management of the infant and child. The most common pathologies in infancy, preschool, school and adolescence according to organ systems. Diagnosis and treatment of the most common pathological conditions in pediatrics. The most common and serious infectious complications of childhood. Basics of preventive and social paediatrics. Specific pharmacotherapy in childhood. Skills: Diagnosis and principles of treatment of basic diseases of childhood under the conditions of a hospital children's ward. The practice work of the pediatrician of primary contact. Technique of feeding newborns and infants. Application of nasogastric tube. Vascular access in children - intravenous infusions into the veins of the head and limbs. Oral administration of drugs to neonates and infants. Methods of blood and urine collection. Bone marrow biopsy and lumbar puncture. Immunization. Tuberculous testing. Chloride sweat test. Sonography of the brain and abdomen. Resuscitation of the newborn. Primary neonatal care. Phototherapy. Neonatal screening.	
<b>Class syllabus:</b> Work at the clinical ward in the role of a junior secondary care physician, under the supervision of a certified physician. Assisting in diagnostic and therapeutic procedures with practical skills training	

in venous blood sampling, urinary catheter insertion, nasogastric tube insertion. Treatment of central venous access, tracheostomy cannula, permanent urinary catheter. Evaluation of radiographs, ECG, laboratory results. Working in a specialist paediatric outpatient clinics. Attending rounds and seminars. Night on-call 2x. Preparation of a sample medical history of a selected patient - detailed history, physical findings, differential diagnosis and treatment. Oral presentation of case report with a discussion in the presence of teacher and students - simulation of a grand rounds.

Circulation in pediatric department (4 weeks), pediatric dermatology department (1 week), pediatric neurology department (1 week), pediatric cardiology department (1 week)

Seminars: 14 seminars

Topics of the seminars: Growth disorders and pituitary diseases. Renal insufficiency and nephrotic syndrome. Diabetes, hypoglycemia and thyroid disorders. Inflammatory bowel disease and malabsorption syndrome. Hepatopathies and splenomegaly. Most common acute and chronic respiratory diseases. Arthritis and vasculitis. Genetically determined diseases. Inherited metabolic disorders. Dietary intake disorders. Intensive care in paediatrics. Sepsis in neonatal and paediatric age. Neonatal and postnatal adaptation. Pathologies in neonatology

Methods: interactive seminars using case based learning (CBL) 25%, team-based learning (TBL) 25%, collaboration with other departments 20% (Department of Physiology LFUK, Department of Medical Biology, Genetics and Clinical Genetics LFUK and UNB, Department Microbiology LFUK and UNB). Self-study with the help of pre-prepared recordings and study materials (mainly Standard Diagnostic and Therapeutic Guidelines) 30%.

**Recommended literature:**

Kovács L. et al: Pediatric Propedeutics - Workbook for Medical Students, BUX, Bratislava, 2014, 150 s.

Lissauer T, Carroll W. Illustrated Textbook of Paediatrics, 6th Edition, Elsevier, 2021

Marcdante K, Kliegman RM, Schuh AM, Nelson Essentials of Pediatrics 9th Edition, Elsevier, 2022

Muntau AC. Pädiatrie Hoch2. Urban&Fischer Elsevier 2018 (German)

Muntau AC. Kurzlehrbuch Pädiatrie. Urban&Fischer Elsevier 2015 (German)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 311

A	B	C	D	E	FX
73,95	19,61	4,18	2,25	0,0	0,0

**Lecturers:** prof. MUDr. Ľudmila Podracká, CSc., prof. MUDr. Ingrid Brucknerová, PhD., doc. MUDr. Peter Čižnár, CSc., doc. MUDr. Tomáš Dallos, PhD., doc. MUDr. Ľudmila Košťálová, CSc., doc. MUDr. Peter Olejník, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.D_K/L-S-VLa-103/20	<b>Course title:</b> Paediatrics – practice
<b>Educational activities:</b> <b>Type of activities:</b> practice <b>Number of hours:</b> <b>per week: per level/semester:</b> 80s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100 % attendance at the practice	
<b>Learning outcomes:</b> Knowledge: broadening, reinforcement and practical application of knowledge acquired in the coursed Paediatrics 1 and Paediatrics 2 in clinical practice Skills: <ul style="list-style-type: none"> <li>- students work as residents at a paediatric ward and perform patient admissions and discharges of children of all ages including history taking from parent and child, physical examination, preparation of a diagnostic and therapeutic plan, medical records, daily clinical report writing, compilation of a patient history, hospital information system use, writing of examination requests)</li> <li>- communication with parents and children</li> <li>- physical examination of children of all ages</li> <li>- patient reporting</li> <li>- practical assessment of laboratory a radiographic findings</li> <li>- medication dosing, i.v. medication and infusion preparation, administration of infusions, subcutaneous and intramuscular injections</li> <li>- provision of selected diagnostic a therapeutic procedures (measurement and monitoring of vital functions, fluid balance, venous and capillary blood sampling, glycemia monitoring, laying of i.v. lines, urinary bladder catheterizations, sampling of biologic material for microbiologic examinations, laying a nasogastric tube, ultrasound), assistance at diagnostic a therapeutic procedures (lumbar puncture, joint puncture, transfusion administration, endoscopic examinations, enema), accompanying patients at ancillary examinations (ultrasound, X-ray, echocardiography, CT, MRI) and specialist's consults</li> <li>- invasive access care (i.v. line, nasogastric tube, percutaneous endoscopic gastrostomy and surgical stomas, permanent catheters, central venous catheters)</li> <li>- paediatric nursing care (feeding of infants and toddlers, daily hygiene of infants and toddlers, safe manipulation with infants and inpatient trauma prevention)</li> </ul>	
<b>Class syllabus:</b>	

<p>In the course of the compulsory practice, the student become acquainted and under the supervision of a qualified medical doctor carry out the standard tasks of a resident. The student becomes part of the medical staff of a paediatric ward and works with patients and their entire medical records at admission, follow-up and discharge. Under the supervision of nursing staff, the student provides nursing care to hospitalized children of all ages. The student joins daily and great rounds at which he reports about patients and become familiar with the diagnostic process and treatment of the entire spectrum of diagnoses and ancillary findings in childhood. The student acquires practical skills in diagnostic and therapeutic procedures as well as communication skills with parents and children. Two nightshifts are to be completed by the student in the course of this practice.</p>
<p><b>Recommended literature:</b>  Lissauer T, Carroll W. Illustrated Textbook of Paediatrics, 6th Edition, Elsevier, 2021  Marcdante K, Kliegman RM, Schuh AM, Nelson Essentials of Pediatrics 9th Edition, Elsevier, 2022  Kovács L. et al: Pediatric Propedeutics - Workbook for Medical Students, BUX, Bratislava, 2014, 150 s.</p>
<p><b>Languages necessary to complete the course:</b>  english</p>
<p><b>Notes:</b></p>
<p><b>Past grade distribution</b>  Total number of evaluated students: 313</p>
<p>ABS0</p>
<p>100,0</p>
<p><b>Lecturers:</b> prof. MUDr. Ľudmila Podracká, CSc.</p>
<p><b>Last change:</b> 30.11.2022</p>
<p><b>Approved by:</b></p>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚPA/L-S-VLa-054/18	<b>Course title:</b> Pathological Anatomy 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s / 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 7	
<b>Recommended semester:</b> 5.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LFAÚ/L-S-VLa-003/17 - Anatomy 3 and LF.ÚHE/L-S-VLa-019/17 - Histology and Embryology 2	
<b>Course requirements:</b> - 100% attendance at the Histopathology seminars - 100% attendance at the Autopsies - 2 written tests (minimum 60% of correct answers) Test evaluation: A: 91-100 %, B: 81-90 %, C: 73-80 %, D: 66-72 %, E: 60-65 %, Fx: <59 %. Autopsy – continuous oral testing of knowledge The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Etiology and pathogenesis of pathological changes of tissues and organs. Connection between clinical presentation and pathologic-anatomical substrate of diseases. Pathomorphological changes of tissues and organs in correlation with functional changes. <b>Skills:</b> Work with the light microscope. Application of conventional and special staining methods and histochemical methods in differential diagnostics of pathological processes. Molecular-genetic methods in pathology Gross description of pathologic-anatomical changes. Arrangement of final diagnoses in the autopsy protocol.	
<b>Class syllabus:</b> General pathology: methods in pathology, pathology of the cell, regressive and progressive changes. Necrosis, atrophy, metabolic disorders, disorders of blood and lymph circulation, inflammation – acute, chronic, granulomatous, developmental disorders, malnutrition, immunopathology, AIDS, transplantation pathology, environmental pathology, genetically conditioned diseases. General oncology: classification and taxonomy of tumors, precancerosis, cancerogenesis, tumor growth and effect on the organism, benign and malignant neoplasms, histological diagnosis, grading, staging, invasion, metastasis, epithelial and mesenchymal neoplasms, neuroectodermal tumors, mixed tumors, teratomas, germinative tumors, tumors of placenta, mesothelioma. Tumor markers, genetics, epigenetics. Hemoblastoses, hemoblastomas, malignant lymphomas.	

**Recommended literature:**

Harsh Mohan: Textbook of Pathology, , Jaypee Brothers Medical Publishers, 2018, 1028 s.  
ROBINs and COTRANs Pathologic basis of disease, 10th edition. SAUNDERS, 2020, 1464s.  
Damjanov Ivan: Atlas of Histopathology, Jaypee Brothers Medical Publishers, 2012, 399.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 801

A	B	C	D	E	FX
56,68	37,33	5,49	0,5	0,0	0,0

**Lecturers:** prof. MUDr. Ľudovít Danihel, CSc., prof. MUDr. Pavel Babál, CSc., doc. MUDr. Zuzana Čierna, PhD., doc. MUDr. Pavol Janega, PhD., MUDr. Andrea Janegová, PhD., MUDr. Lucia Krivošíková, PhD., MUDr. Kristína Mikuš Kuracinová, PhD., MUDr. Kristína Mosná, PhD., MUDr. Hedviga Mrázová, PhD., MUDr. Michal Palkovič, PhD., MPH, MUDr. Mgr. Vladimír Šišovský, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚPA/L-S-VLa-055/18	<b>Course title:</b> Pathological Anatomy 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s / 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 9	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPA/L-S-VLa-054/18 - Pathological Anatomy 1	
<b>Course requirements:</b> - 100% attendance at the Histopathology seminars - 100% attendance at the Autopsies - 2 written tests (minimum 60% of correct answers) Test evaluation: A: 91-100 %, B: 81-90 %, C: 73-80 %, D: 66-72 %, E: 60-65 %, Fx: <59 %. Autopsy – continuous oral testing of knowledge Final examination: - Practical examination in Autopsy – oral form - Description of 1 histological slide - Final written multiple-choice test – minimal score - 75 % - Oral examination with 3 questions 1 – general pathology 1 – oncology 1 – special pathology The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Morphological changes of different organs in neoplastic and nonneoplastic processes. Classification of tumors of different systems, grading, staging. Etiology, pathogenesis, complications and prognosis of pathological changes in different organs. Pathomorphological changes of tissues and organs in correlation with functional changes. <b>Skills:</b> Use of modern immunohistochemical, molecular biology and ultrastructural methods in diagnostics of disease processes. Basis of histological diagnostics. Conclusion of autopsy protocol on the basis of microscopic and gross findings.	
<b>Class syllabus:</b> Special pathology: Cardiovascular system – diseases of vessels, atherosclerosis, heart diseases, respiratory system – inflammation, allergies, emphysema, tumors, hemopoietic system, Pathology of the spleen, lymphatic nodes, nephropathology – vascular disorders, inflammation, tumors, GIT – inflammation, ulcerous colitis, Crohn disease, metabolic disorders, tumors, bones and	

joints – inflammation, degenerative diseases, myopathies, endocrine system – syndromes, tumors, neuroendocrine system, skin – inflammation, tumors, genitalia – inflammation, sexually transmitted diseases, precanceroses, neoplasm, breast, endometrial dysfunctions, pathology of pregnancy, trophoblast disease, nerve system – trauma, circulation disorders, inflammation, degenerative disorders, tumors, pathology of newborn.					
<b>Recommended literature:</b> Harsh Mohan: Textbook of Pathology, Jaypee Brothers Medical Publishers, 2018, 1028 s. ROBINs and COTRANs Pathologic basis of disease, 10th edition, SAUNDERS, 2020, 1464s. Damjanov Ivan: Atlas of Histopathology, Jaypee Brothers Medical Publishers, 2012, 399.					
<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 707					
A	B	C	D	E	FX
33,24	23,06	16,12	9,19	14,99	3,39
<b>Lecturers:</b> prof. MUDr. Ľudovít Danihel, CSc., prof. MUDr. Pavel Babál, CSc., doc. MUDr. Zuzana Čierna, PhD., doc. MUDr. Pavol Janega, PhD., MUDr. Andrea Janegová, PhD., MUDr. Lucia Krivošíková, PhD., MUDr. Kristína Mikuš Kuracinová, PhD., MUDr. Kristína Mosná, PhD., MUDr. Hedviga Mrázová, PhD., MUDr. Michal Palkovič, PhD., MPH, MUDr. Mgr. Vladimír Šišovský, PhD., MUDr. Samuel Horák					
<b>Last change:</b> 29.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚPF/L-S-VLa-056/18	<b>Course title:</b> Pathological Physiology 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 36s / 36s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 5	
<b>Recommended semester:</b> 5.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.FyÚ/L-S-VLa-014/17 - Physiology 2	
<b>Course requirements:</b> - 100% attendance at the seminars and practicals, - active participation at the seminars and practicals (oral answers), - 2 written tests (minimum 60% of correct answers). Test evaluation: A: 91 - 100%, B: 81 – 90%, C: 73 – 80%, D: 66 – 72%, E: 60 – 65%, Fx: 59 - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - The student will acquire a summary of basic knowledge about the etiopathogenetic mechanisms of the origin and course of diseases and conditions, the basics of general pathophysiology, the pathophysiology of the respiratory system, blood, and cardiovascular system, - the student can analyse the relationship between diseases and pathological conditions and their clinical manifestations in the context of differential diagnosis, - based on understanding causal relationships, the student can propose targeted therapeutic interventions. <b>Skills:</b> - The student can actively interfere with theoretical and practical models of basic diseases and modify them by applying altered conditions as a result of therapeutic intervention, - the student can process the algorithm of the origin and development of basic diseases, - the student can integrate the knowledge from all theoretical disciplines in a comprehensive picture of the origin and development of pathologic conditions, - completion of pathophysiology develops the student's cognitive skills towards the use of logical and creative thinking, - practical exercises develop the student's practical skills in using instruments for measuring basic clinical parameters.	
<b>Class syllabus:</b> Lectures:	

Hemodynamics of circulation. Valvular disorders. Blood pressure regulation, hypertension. Heart failure, pathogenesis of therapy. Heart rhythm disorders. Sudden cardiac death. Collapse. Shock. Cardiovascular risk factors and their modification. Atherosclerosis. Pulmonary embolism. Pulmonary hypertension. Cor pulmonale. Right-sided heart failure. Obstructive and restrictive respiratory diseases. Pneumonia and respiratory insufficiency. Metabolic syndrome. Obesity and its modification. Adaptation, general adaptation syndrome - stress. Carcinogenesis. Pathophysiology of tumours. Molecular medicine. Intracellular signalling.

Seminars and practicals:

Pathophysiology as a preclinical subject. Valvular disorders. Inflammation, fever, pain. Dehydration. Hyperhydration. Disorders of sodium, potassium, calcium, magnesium. Disorders of acid-base balance. Blood pressure regulation. Hypertension. Endothelial dysfunction. Venous insufficiency and varicose veins. Atherosclerosis. Stable and unstable atherosclerotic plaque. Complications of atherosclerosis. Ischemic heart disease. Myocardial infarction. Electrical activity of the heart. Arrhythmias. Sudden cardiac death. Collapse. Shock and microcirculation disorders. General adaptation syndrome - stress. Anaemia and anaemic syndrome. Leukocyte disorders.

**Recommended literature:**

- McPhee, S.J. et al.: Pathophysiology of Disease: Introduction to Clinical Medicine, 8th edition. McGraw-Hill/LANGE, 2019. ISBN 978-1-260-02650-4.
- Norris, T.L.: Porth's Pathophysiology: Concepts of Altered Health States. 10th ed. Wolters Kluwer 2019; ISBN 978-1-4963-7755-5.
- Hulín, I. et al.: Pathophysiology, Bratislava: SAP, 1997, 696 s. ISBN 80-88908-07-8.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 797

A	B	C	D	E	FX
32,5	56,21	10,04	1,25	0,0	0,0

**Lecturers:** prof. MUDr. Fedor Šimko, CSc., prof. MUDr. Marián Bernadič, CSc., prof. MUDr. Beáta Mladosičová, CSc., doc. MUDr. Ing. Peter Celec, DrSc., prof. MUDr. Barbara Ukropcová, PhD., MUDr. RNDr. Ľudovít Paulis, PhD., doc. MUDr. Tomáš Baka, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚPF/L-S-VLa-057/18	<b>Course title:</b> Pathological Physiology 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 36s / 36s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 8	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPF/L-S-VLa-056/18 - Pathological Physiology 1	
<b>Course requirements:</b> - 100% attendance at the seminars and practicals, - active participation at the seminars and practicals (oral answers), - 2 written tests (minimum 60% of correct answers). <b>Final exam:</b> - Meeting all the course requirements, - theoretical oral exam: 3 questions (general pathophysiology, pathophysiology of cardiovascular system, pathophysiology of other systems). <b>Test evaluation:</b> A: 91 - 100%, B: 81 – 90%, C: 73 – 80%, D: 66 – 72%, E: 60 – 65%, Fx: 59 - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - The student will acquire a summary of basic knowledge about the pathophysiology of the uropoietic system, gastrointestinal system, endocrine system, nervous system, selected chapters from the pathophysiology of the senses, nutrition, connective tissue and bones and pathophysiology of reproduction, - the student can analyse the relationship between diseases and pathological conditions and their clinical manifestations in the context of differential diagnosis, - based on understanding causal relationships, the student can propose targeted therapeutic interventions. <b>Skills:</b> - The student can actively interfere with theoretical and practical models of basic diseases and modify them by applying altered conditions as a result of therapeutic intervention, - the student can process the algorithm of the origin and development of basic diseases, - the student can integrate the knowledge from all theoretical disciplines in a comprehensive picture of the origin and development of pathologic conditions, - completion of pathophysiology develops the student's cognitive skills towards the use of logical and creative thinking,	

- practical exercises develop the student's practical skills in using instruments for measuring basic clinical parameters.

**Class syllabus:****Lectures:**

Ischemic heart disease. Myocardial infarction. Reperfusion syndrome of the heart. Calcium and oxygen paradox. Duodenal and gastric ulcer. Pancreatitis. Ileus. Cirrhosis and liver failure. Proteinuria. Haematuria. Nephrotic and nephritic syndrome. Acute and chronic renal failure. Insulin resistance. Diabetes mellitus and its complications. Diseases of the thyroid gland, parathyroid glands. Calcium regulation. Diseases of the adrenal glands, hypothalamus, and pituitary gland. Anaemic syndrome. Anaemia. Leukocyte, platelet, and coagulation disorders. Cerebral ischemia and stroke. Intracranial hypertension. Cerebral oedema.

**Seminars and practicals:**

Heart failure, principles of therapy. Pulmonary embolism. Pulmonary hypertension. Cor pulmonale. Restrictive and obstructive respiratory diseases. Pneumonia. Respiratory insufficiency. Gastric and duodenal ulcer. Pancreatitis. Ileus. Liver failure. Cirrhosis. Proteinuria, haematuria, nephritic and nephrotic syndrome, urinalysis. Acute and chronic renal failure. Insulin resistance. Diabetes mellitus. Metabolic syndrome. Obesity and its modification. Hyper- and hypothyroidism. Parathyroid disorders. Carcinogenesis. Pathophysiology of tumours. Etiopathogenesis of epilepsy and migraine. Stroke. Intracranial hypertension. Cerebral oedema.

**Recommended literature:**

- McPhee, S.J. et al.: Pathophysiology of Disease: Introduction to Clinical Medicine, 8th edition. McGraw-Hill/LANGE, 2019. ISBN 978-1-260-02650-4.
- Norris, T.L.: Porth's Pathophysiology: Concepts of Altered Health States. 10th ed. Wolters Kluwer 2019; ISBN 978-1-4963-7755-5.
- Hulín, I. et al.: Pathophysiology, Bratislava: SAP, 1997, 696 s. ISBN 80-88908-07-8.

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 713

A	B	C	D	E	FX
14,87	16,97	21,32	13,74	20,48	12,62

**Lecturers:** prof. MUDr. Fedor Šimko, CSc., prof. MUDr. Marián Bernadič, CSc., prof. MUDr. Beáta Mladosičovičová, CSc., doc. MUDr. Ing. Peter Celec, DrSc., prof. MUDr. Barbara Ukropcová, PhD., MUDr. RNDr. Ľudovít Paulis, PhD., doc. MUDr. Tomáš Baka, PhD., doc. MUDr. RNDr. Roman Gardlík, PhD., MUDr. Kristína Repová, PhD., doc. RNDr. Oľga Pecháňová, DrSc., MUDr. Peter Stanko, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚFKF/L-S-VLa-011/18	<b>Course title:</b> Pharmacology 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 36s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.MÚ/L-S-VLa-045/17 - Microbiology 1	
<b>Course requirements:</b> - 100% attendance at the practicals, - 2 written test (minimum 60% of correct answers), - elaboration and presentation of the seminar essay. Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 – 0 %. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> To acquire general knowledge on: - basic mechanisms of drug action, - fate of the drug in the body, - risks of pharmacotherapy, - preclinical and clinical evaluation of drugs. To acquire knowledge about drugs of selected pharmacodynamic classes with emphasis on: mechanisms of drug action, characteristic pharmacokinetic properties, typical adverse drug reactions, indications, contraindications and clinically significant interactions. <b>Skills:</b> Ability to use and apply the knowledge from general pharmacology in subsequent study of special pharmacology.	
<b>Class syllabus:</b> Medicines and society. Drug information sources. Nomenclature. Principles of drug prescription. How drugs act. Mechanisms of drug action on molecular level. Receptors. Basic principles of the movement of substances in the body. Basic pharmacokinetic concepts. Pharmacogenetics. Pharmacoepidemiology. Pharmacoeconomics. Pharmacovigilance. Adverse drug reactions. Clinical and preclinical drug evaluation. Good Laboratory Practice. Good Clinical Practice. Risks of pharmacotherapy in pregnancy and during lactation. Risks of pharmacotherapy in elderly. Pharmacology of the autonomic nervous system. Sympathetic nervous system. Parasympathetic nervous system. Pain and its pharmacotherapeutic approach. Inflammation	

and its pharmacotherapeutic approach. NSAIDs. Opioid analgesics. Antirheumatics. Biologic drugs. Cytostatics. X-ray contrast media. Immunosuppressives and immunostimulants. Drugs influencing the smooth muscles, motor activities and secretion in the airways. Antiasthmatic drugs. Medicaments used in the therapy of allergic diseases. Drugs affecting digestion, food intake. Drugs used in the treatment of peptic and duodenal ulcer. Drugs used in disorders of the pancreas, liver and bile ducts. Drugs used in functional gastrointestinal disorders and other intestinal diseases, intestinal adsorbents. Intoxications and antidotes.

**Recommended literature:**

Brenner G.M., Stevens C.W. Pharmacology. 5th ed. Philadelphia: Elsevier Saunders, 2018. 568 p.

Rang H.P., Dale M.M., Ritter J.M., Flower R.J., Henderson G. Rang and Dale's Pharmacology.

9th ed. Edinburgh: Elsevier, Churchill Livingstone, 2019. 789 p.

Wecker L., Taylor D.A., Theobald R.J.Jr. Brody's Human Pharmacology. Mechanism-Based Therapeutics. 6th ed. Philadelphia: Elsevier Mosby, 2018. 728 p.

Brown M., Sharma P., Mir F., Bennett P.N. Clinical Pharmacology 12th ed. Edinburgh: Elsevier Ltd., 2019, 720 p.

Katzung B.G. Basic and Clinical Pharmacology. 14th ed. New York: McGraw-Hill, 2018, 1191 p.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 730

A	B	C	D	E	FX
44,66	39,73	13,97	1,51	0,14	0,0

**Lecturers:** prof. MUDr. Viera Kristová, CSc., prof. MUDr. Milan Kriška, DrSc., prof. MUDr. Martin Wawruch, PhD., doc. PharmDr. Andrea Gažová, PhD., MUDr. Kristína Hudecová, PhD., MUDr. Miriam Petrová, PhD., MUDr. Vasil Hricák, MUDr. Monika Laššánová, PhD., MUDr. Andrea Raganová, PhD., MUDr. Jana Tisoňová, PhD., MUDr. Róbert Vojtko, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚFKF/L-S-VLa-012/19	<b>Course title:</b> Pharmacology 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 36s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 7	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚFKF/L-S-VLa-011/18 - Pharmacology 1 and LF.MÚ/L-S-VLa-046/18 - Microbiology 2	
<b>Course requirements:</b> - 100% attendance at the practicals, - 2 written test (minimum 60% of correct answers), - elaboration and presentation of the seminar essay. <b>Final exam:</b> - written part of exam (minimum 60% of correct answers), - oral part of exam: 3 questions (basic pharmacology, special pharmacology, selected drugs). <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 – 0 %. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> To acquire knowledge on drugs of particular pharmacodynamic classes with emphasis on: - mechanisms of drug action, - pharmacokinetics, - clinical application, - adverse effects, - drug interactions. <b>Skills:</b> Ability to apply the knowledge of pharmacology in clinical disciplines. Ability to judge the risk/benefit ratio of drugs in an individual patient.	
<b>Class syllabus:</b> Drugs used in the therapy of cardiovascular disorders. Antihypertensives. Vasodilator drugs. Drugs used in the therapy of heart failure. Cardiotonics. Antidysrhythmics. Drugs used in the therapy of ischemic heart disease. Antianginal drugs. Hypolipidemics. Antithrombotics. CNS drugs. Antidepressants. Antipsychotics. Hypnotics. Anxiolytics. Antiepileptics. Antiparkinson agents. Cognitive enhancers. Drugs influencing the hormonal system. Antidiabetics. Pituitary and adrenal hormones. Thyroid hormones. Glucocorticoids. Corticosteroid selection and treatment strategy.	

Drugs used in the treatment of osteoporosis. Female and male hormones. Contraceptives. Hormone replacement therapy. Antimicrobials. Drugs influencing the urogenital system. Characteristics of beta-lactams, macrolides, tetracyclines, quinolones and aminoglycosides. Antituberculotics. Antivirals. Antifungals. Antiparasitics. Antimicrobial treatment strategy and principles. Vitamins in therapy. Principles of pharmacotherapeutic evaluation in individualized therapy. Drug interactions and their clinical significance.

**Recommended literature:**

Brenner G.M., Stevens C.W. Pharmacology. 5th ed. Philadelphia: Elsevier Saunders, 2018. 568 p.  
Rang H.P., Dale M.M., Ritter J.M., Flower R.J., Henderson G. Rang and Dale's Pharmacology. 9th ed. Edinburgh: Elsevier, Churchill Livingstone, 2019. 789 p.

Wecker L., Taylor D.A., Theobald R.J.Jr. Brody's Human Pharmacology. Mechanism-Based Therapeutics. 6th ed. Philadelphia: Elsevier Mosby, 2018. 728 p.

Brown M., Sharma P., Mir F., Bennett P.N. Clinical Pharmacology 12th ed. Edinburgh: Elsevier Ltd., 2019, 720 p.

Katzung B.G. Basic and Clinical Pharmacology. 14th ed. New York: McGraw-Hill, 2018, 1191 p.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 590

A	B	C	D	E	FX
43,56	26,95	16,44	8,64	3,05	1,36

**Lecturers:** prof. MUDr. Viera Kristová, CSc., prof. MUDr. Milan Kriška, DrSc., prof. MUDr. Martin Wawruch, PhD., doc. PharmDr. Andrea Gažová, PhD., MUDr. Miriam Petrová, PhD., MUDr. Jana Tisoňová, PhD., MUDr. Kristína Hudecová, PhD., MUDr. Róbert Vojtko, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚTVŠ/L-S-VLa-075/16	<b>Course title:</b> Physical Training 1
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100 % trainings attendance	
<b>Learning outcomes:</b> Universal development of upcoming physician. Interdisciplinary connection between physical education, utilizing of physical education and sports in physical practice as one of the main resources to prevent illness and adopting importance of physical activity for personal development.	
<b>Class syllabus:</b> Teaching theory, methodology, and practical application of the following sports: basketball, volleyball, football/soccer, interior football/soccer, floorball, tennis, table tennis, badminton, swimming, aerobics, Zumba, hiking (fitness, recreational, water, cycling), and winter sports based on students' interests (skiing, snowboarding, skialp). Basics and theory of weightlifting. In team sports, training and understanding of basics game requirements for the individual and basic combinations of game possibilities. Basics of rules, strategies, and tactics for the chosen sport. The best performing students have the opportunity to participate in representing faculty in the University League in volleyball, indoor football/soccer, floorball, basketball, and swimming. Exercises for the physically disabled or injured – weight room, gym, swimming pool. Optional winter training camp.	
<b>Recommended literature:</b> - Bronikowski M., González-Gross M., Kleiner K., Knisel K., Martinková I., Stache A., Kantanista A., Cañada Lòpez D., Konlechner A. (2008). Physical activity, obesity and health programs in selected European countries. <i>Studies in Physical Culture and Tourism</i> , 15, (1):9-18. - Chandler T., Cronin M., Vamplew W. (2007). <i>Sport and Physical Education. The key concepts.</i> Routledge. London.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b> Total number of evaluated students: 1599
ABS0
100,0
<b>Lecturers:</b> PaedDr. Róbert Važan, PhD., Mgr. Michal Korman, Mgr. Barbora Kociánová, PhD., Mgr. Monika Lamošová, Mgr. Henrich Krč, PhD., Mgr. Veronika Lovásová, PhD., Mgr. Petra Slyšková
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚTVŠ/L-S-VLa-076/16	<b>Course title:</b> Physical Training 2
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% participation in seminars	
<b>Learning outcomes:</b> Universal development of upcoming physician. Interdisciplinary connection between physical education, utilizing of physical education and sports in physical practice as one of the main resources to prevent illness and adopting importance of physical activity for personal development.	
<b>Class syllabus:</b> Teaching theory, methodology, and practical application of the following sports: basketball, volleyball, football/soccer, interior football/soccer, floorball, tennis, table tennis, badminton, swimming, aerobics, Zumba, hiking (fitness, recreational, water, cycling), and winter sports based on students' interests (skiing, snowboarding, skialp). Basics and theory of weightlifting. In team sports, training and understanding of basics game requirements for the individual and basic combinations of game possibilities. Basics of rules, strategies, and tactics for the chosen sport. The best performing students have the opportunity to participate in representing faculty in the University League in volleyball, indoor football/soccer, floorball, basketball, and swimming. Exercises for the physically disabled or injured – weight room, gym, swimming pool. Optional winter training camp.	
<b>Recommended literature:</b> - Bronikowski M., González-Gross M., Kleiner K., Knisel K., Martinková I., Stache A., Kantanista A., Cañada Lòpez D., Konlechner A. (2008). Physical activity, obesity and health programs in selected European countries. <i>Studies in Physical Culture and Tourism</i> , 15, (1):9-18. - Chandler T., Cronin M., Vamplew W. (2007). <i>Sport and Physical Education. The key concepts.</i> Routledge. London.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b> Total number of evaluated students: 1330
ABS0
100,0
<b>Lecturers:</b> PaedDr. Róbert Važan, PhD., Mgr. Barbora Kociánová, PhD., Mgr. Michal Korman, Mgr. Monika Lamošová, Mgr. Henrich Krč, PhD., Mgr. Veronika Lovásová, PhD., Mgr. Petra Slyšková
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚTVŠ/L-S-VLa-073/17	<b>Course title:</b> Physical Training 3
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 3.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% participation in seminars	
<b>Learning outcomes:</b> Universal development of upcoming physician. Interdisciplinary connection between physical education, utilizing of physical education and sports in physical practice as one of the main resources to prevent illness and adopting importance of physical activity for personal development.	
<b>Class syllabus:</b> Teaching theory, methodology, and practical application of the following sports: basketball, volleyball, football/soccer, interior football/soccer, floorball, tennis, table tennis, badminton, swimming, aerobics, Zumba, hiking (fitness, recreational, water, cycling), and winter sports based on students' interests (skiing, snowboarding, skialp). Basics and theory of weightlifting. In team sports, training and understanding of basics game requirements for the individual and basic combinations of game possibilities. Basics of rules, strategies, and tactics for the chosen sport. The best performing students have the opportunity to participate in representing faculty in the University League in volleyball, indoor football/soccer, floorball, basketball, and swimming. Exercises for the physically disabled or injured – weight room, gym, swimming pool. Optional winter training camp.	
<b>Recommended literature:</b> - Bronikowski M., González-Gross M., Kleiner K., Knisel K., Martinková I., Stache A., Kantanista A., Cañada Lòpez D., Konlechner A. (2008). Physical activity, obesity and health programs in selected European countries. <i>Studies in Physical Culture and Tourism</i> , 15, (1):9-18. - Chandler T., Cronin M., Vamplew W. (2007). <i>Sport and Physical Education. The key concepts.</i> Routledge. London.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b> Total number of evaluated students: 1134
ABS0
100,0
<b>Lecturers:</b> PaedDr. Róbert Važan, PhD., Mgr. Monika Lamošová, Mgr. Barbora Kociánová, PhD., Mgr. Michal Korman, Mgr. Henrich Krč, PhD., Mgr. Veronika Lovásová, PhD., Mgr. Petra Slyšková
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚTVŠ/L-S-VLa-074/17	<b>Course title:</b> Physical Training 4
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% participation in seminars	
<b>Learning outcomes:</b> Universal development of upcoming physician. Interdisciplinary connection between physical education, utilizing of physical education and sports in physical practice as one of the main resources to prevent illness and adopting importance of physical activity for personal development.	
<b>Class syllabus:</b> Teaching theory, methodology, and practical application of the following sports: basketball, volleyball, football/soccer, interior football/soccer, floorball, tennis, table tennis, badminton, swimming, aerobics, Zumba, hiking (fitness, recreational, water, cycling), and winter sports based on students' interests (skiing, snowboarding, skialp). Basics and theory of weightlifting. In team sports, training and understanding of basics game requirements for the individual and basic combinations of game possibilities. Basics of rules, strategies, and tactics for the chosen sport. The best performing students have the opportunity to participate in representing faculty in the University League in volleyball, indoor football/soccer, floorball, basketball, and swimming. Exercises for the physically disabled or injured – weight room, gym, swimming pool. Optional winter training camp.	
<b>Recommended literature:</b> - Bronikowski M., González-Gross M., Kleiner K., Knisel K., Martinková I., Stache A., Kantanista A., Cañada Lòpez D., Konlechner A. (2008). Physical activity, obesity and health programs in selected European countries. <i>Studies in Physical Culture and Tourism</i> , 15, (1):9-18. - Chandler T., Cronin M., Vamplew W. (2007). <i>Sport and Physical Education. The key concepts.</i> Routledge. London.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b> Total number of evaluated students: 964
ABS0
100,0
<b>Lecturers:</b> PaedDr. Róbert Važan, PhD., Mgr. Barbora Kociánová, PhD., Mgr. Michal Korman, Mgr. Monika Lamošová, Mgr. Henrich Krč, PhD., Mgr. Veronika Lovásová, PhD., Mgr. Petra Slyšková
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚTVŠ/L-S-VLa-079/18	<b>Course title:</b> Physical Training 5
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 5.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% participation in seminars	
<b>Learning outcomes:</b> Universal development of upcoming physician. Interdisciplinary connection between physical education, utilizing of physical education and sports in physical practice as one of the main resources to prevent illness and adopting importance of physical activity for personal development.	
<b>Class syllabus:</b> Teaching theory, methodology, and practical application of the following sports: basketball, volleyball, football/soccer, interior football/soccer, floorball, tennis, table tennis, badminton, swimming, aerobics, Zumba, hiking (fitness, recreational, water, cycling), and winter sports based on students' interests (skiing, snowboarding, skialp). Basics and theory of weightlifting. In team sports, training and understanding of basics game requirements for the individual and basic combinations of game possibilities. Basics of rules, strategies, and tactics for the chosen sport. The best performing students have the opportunity to participate in representing faculty in the University League in volleyball, indoor football/soccer, floorball, basketball, and swimming. Exercises for the physically disabled or injured – weight room, gym, swimming pool. Optional winter training camp.	
<b>Recommended literature:</b> - Bronikowski M., González-Gross M., Kleiner K., Knisel K., Martinková I., Stache A., Kantanista A., Cañada Lòpez D., Konlechner A. (2008). Physical activity, obesity and health programs in selected European countries. <i>Studies in Physical Culture and Tourism</i> , 15, (1):9-18. - Chandler T., Cronin M., Vamplew W. (2007). <i>Sport and Physical Education. The key concepts.</i> Routledge. London.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b> Total number of evaluated students: 758
ABS0
100,0
<b>Lecturers:</b> PaedDr. Róbert Važan, PhD., Mgr. Barbora Kociánová, PhD., Mgr. Michal Korman, Mgr. Monika Lamošová, Mgr. Henrich Krč, PhD., Mgr. Veronika Lovásová, PhD., Mgr. Petra Slyšková
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚTVŠ/L-S-VLa-080/18	<b>Course title:</b> Physical Training 6
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% participation in seminars	
<b>Learning outcomes:</b> Universal development of upcoming physician. Interdisciplinary connection between physical education, utilizing of physical education and sports in physical practice as one of the main resources to prevent illness and adopting importance of physical activity for personal development.	
<b>Class syllabus:</b> Teaching theory, methodology, and practical application of the following sports: basketball, volleyball, football/soccer, interior football/soccer, floorball, tennis, table tennis, badminton, swimming, aerobics, Zumba, hiking (fitness, recreational, water, cycling), and winter sports based on students' interests (skiing, snowboarding, skialp). Basics and theory of weightlifting. In team sports, training and understanding of basics game requirements for the individual and basic combinations of game possibilities. Basics of rules, strategies, and tactics for the chosen sport. The best performing students have the opportunity to participate in representing faculty in the University League in volleyball, indoor football/soccer, floorball, basketball, and swimming. Exercises for the physically disabled or injured – weight room, gym, swimming pool. Optional winter training camp.	
<b>Recommended literature:</b> - Bronikowski M., González-Gross M., Kleiner K., Knisel K., Martinková I., Stache A., Kantanista A., Cañada Lòpez D., Konlechner A. (2008). Physical activity, obesity and health programs in selected European countries. <i>Studies in Physical Culture and Tourism</i> , 15, (1):9-18. - Chandler T., Cronin M., Vamplew W. (2007). <i>Sport and Physical Education. The key concepts.</i> Routledge. London.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>
Total number of evaluated students: 652
ABS0
100,0
<b>Lecturers:</b> PaedDr. Róbert Važan, PhD., Mgr. Barbora Kociánová, PhD., Mgr. Michal Korman, Mgr. Monika Lamošová, Mgr. Henrich Krč, PhD., Mgr. Veronika Lovásová, PhD., Mgr. Petra Slyšková
<b>Last change:</b> 29.11.2022
<b>Approved by:</b>

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-013/17	<b>Course title:</b> Physiology 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 60s / 60s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 8	
<b>Recommended semester:</b> 3.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% presence in practical classes/seminars To prepare protocols from all performed practical tasks To submit the assigned seminar projects To pass successfully 4 written tests (minimum 70 % each) after completing a specific topic	
<b>Learning outcomes:</b> <b>Knowledge:</b> To obtain the knowledge of facts and to understand their relationships in the topic of blood physiology, physiology of the excitable tissues, physiology of the digestive system, nutrition and metabolism. To gain basic knowledge about diseases prevention and healthy lifestyle. <b>Skills:</b> To acquire skills in recording, evaluation and interpretation of results of selected blood examinations, examinations of the respiratory system and metabolism, examination of dietary habits and nutritional status. To gain/improve basic laboratory skills (use of microscope, pipette), basic medical examinations and measurements (determination of hematocrit, blood groups, haemoglobin concentration, count of blood elements, leukogram, metabolic rate, assessment of nutritional status, basics of spirometry, oximetry).	
<b>Class syllabus:</b> Blood - blood plasma, blood elements, acid-base balance, osmotic pressure, blood groups, blood coagulation and haemostasis, erythropoiesis. Excitable tissues - receptors, membrane potential, nerve excitability, synapses, reflex and the reflex arc, functional properties of nerves, skeletal and smooth muscle. Respiration - functions of the respiratory system, ventilation, exchange of respiratory gases, the lung volumes and capacities, transport of O <sub>2</sub> and CO <sub>2</sub> , breathing and regulation of the blood pH, influence of changes in atmospheric pressure, regulation of breathing. The digestive system - mastication, swallowing, gastric motility, the small and large intestine motility, the function of digestive juices and their secretion, digestion and absorption of nutrients, the function of the liver, regulations.	

Nutrition and metabolism – nutrients and their functions, principles of balanced diet, energy intake and expenditure, basal metabolic rate and its measurement, metabolism in physical activity, oxygen debt, metabolism of carbohydrates, fats, proteins and its regulation.

**Recommended literature:**

OSTATNÍKOVÁ, D. et al. Basics of Medical Physiology. Bratislava: Comenius University, 2014. 264 p. ISBN 978-80-223-3563-8.

OSTATNÍKOVÁ, D. et al. Laboratory Guide to Medical Physiology. Bratislava: Univerzita Komenského, 2014. 212 p. ISBN 978-80-223-3720-5.

SILVERTHORN, D.U. Human Physiology: An Integrated Approach. 7th ed. University of Texas, Austin. Pearson, 2015. 960 p. ISBN 978-12-9209-493-9.

KOEPPEN, B.M. and STANTON, B.A., eds. Berne & Levy Physiology: With Student Consult Online Access. 6th ed. Philadelphia: Mosby Elsevier, 2010. 848 p. ISBN 978-0323073622.

HALL, J.E. Guyton and Hall Textbook of Medical Physiology. 13th ed. Philadelphia: Saunders Elsevier, 2016. 1146 p. ISBN 978-1-4557-7016-8.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1211

A	B	C	D	E	FX
20,56	29,98	23,78	17,67	6,11	1,9

**Lecturers:** prof. MUDr. Daniela Ostatníková, PhD., prof. MUDr. Boris Mravec, PhD., doc. MUDr. Katarína Babinská, PhD., prof. MUDr. Jana Radošinská, PhD., doc. MUDr. Mgr. Július Hodosy, PhD., MUDr. Rastislav Važan, PhD., MUDr. Silvia Hnilicová, PhD., MUDr. Mgr. Rudolf Drábek, doc. Dr. Aleksandra Sashova Tomova, PhD., doc. RNDr. Ján Bakoš, PhD., MUDr. Ivan Szadvári, PhD., Mgr. Gabriela Repiská, PhD., RNDr. Jaroslava Babková, PhD., RNDr. Klaudia Kyselíková, PhD., RNDr. Silvia Lakatošová, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-014/17	<b>Course title:</b> Physiology 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 60s / 60s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 10	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.AÚ/L-S-VLa-003/17 - Anatomy 3 and LF.FyÚ/L-S-VLa-013/17 - Physiology 1	
<b>Course requirements:</b> 100% presence in practical classes/seminars To prepare protocols from all performed practical tasks To submit the assigned seminar projects To pass successfully 4 written tests (minimum 70 % each) after completing a specific topic Final complex examination - a complex written test (minimum points to pass 70%) - practical part of the examination: to perform a practical task and to evaluate the result - oral part of the examination: 2 questions on medical physiology The final evaluation is based on the results of all 3 parts.	
<b>Learning outcomes:</b> <b>Knowledge:</b> To obtain the knowledge of facts and to understand their relationships in the topic of cardiovascular physiology, thermoregulation, excretory system, endocrine system and reproduction, senses, and central nervous system. To acquire basic knowledge about of disease prevention and healthy lifestyle. <b>Skills:</b> To acquire skills in recording, evaluation and interpretation of results of selected examinations of the cardiovascular system, sensory organs, and central nervous system. To gain/improve skills in basic medical examinations and measurements (examination of the arterial pulse, blood pressure, ECG, visual acuity, eye ground, visual field, otoscopy and audiometry, examination of reflexes). To get skills in presentation of scientific information and information about disease prevention and healthy lifestyle in form of short lecture and discussion.	
<b>Class syllabus:</b> Cardiovascular system - physiological properties of the cardiac muscle, cardiac cycle, heart sounds, arterial pulse, electrocardiography, blood flow in vessels, blood pressure, transcapillary exchange, lymph circulation, regional blood circulations. Thermoregulation - body temperature and its biorhythms, heat production and losses, mechanisms of thermoregulation.	

Kidneys - body fluids and their ion-structure, glomerular filtration rate and tubular processes, acid-base balance, formation and excretion of urine, regulation of renal functions.  
 Endocrine glands and reproduction - mechanisms of hormonal action, function of the hypothalamus - pituitary system, functions of hormones and endocrine glands.  
 Special senses - receptors, their classification and function, specialization of receptors, receptor potentials - vision, hearing, taste, olfaction, sense of balance, mechanoreception, thermoreception, nociception, proprioception.  
 Physiology of central nervous system – reflex, reflex arch, sensation and perception, regulation of movements and muscle tone, higher nervous functions - memory, emotions, learning, speech, functional specialization of brain hemispheres.

**Recommended literature:**

OSTATNÍKOVÁ, D. et al. Basics of Medical Physiology. Bratislava: Comenius University, 2014. 264 p. ISBN 978-80-223-3563-8.  
 OSTATNÍKOVÁ, D. et al. Laboratory Guide to Medical Physiology. Bratislava: Univerzita Komenského, 2014. 212 p. ISBN 978-80-223-3720-5.  
 SILVERTHORN, D.U. Human Physiology: An Integrated Approach. 7th ed. University of Texas, Austin. Pearson, 2015. 960 p. ISBN 978-12-9209-493-9.  
 KOEPPEN, B.M. and STANTON, B.A., eds. Berne & Levy Physiology: With Student Consult Online Access. 6th ed. Philadelphia: Mosby Elsevier, 2010. 848 p. ISBN 978-0323073622.  
 HALL, J.E. Guyton and Hall Textbook of Medical Physiology. 13th ed. Philadelphia: Saunders Elsevier, 2016. 1146 p. ISBN 978-1-4557-7016-8.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 958

A	B	C	D	E	FX
18,16	19,31	20,88	14,61	13,78	13,26

**Lecturers:** prof. MUDr. Daniela Ostatníková, PhD., prof. MUDr. Boris Mravec, PhD., prof. MUDr. Jana Radošinská, PhD., doc. MUDr. Katarína Babinská, PhD., doc. MUDr. Mgr. Július Hodosy, PhD., MUDr. Rastislav Važan, PhD., MUDr. Silvia Hnilicová, PhD., doc. RNDr. Monika Barteková, PhD., MUDr. Ivan Szadvári, PhD., doc. Dr. Aleksandra Sashova Tomova, PhD., RNDr. Jaroslava Babková, PhD., RNDr. Silvia Lakatošová, PhD., MUDr. Mgr. Rudolf Drábek, doc. RNDr. Ján Bakoš, PhD., Mgr. Gabriela Repiská, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S-VLa-151/19	<b>Course title:</b> Principles of E-Health
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Continuously: - Active participation in lectures Final exam: - Semestral project submission Test rating: A: 91 % – 100 %, B: 81 % – 90 %, C: 73 % – 80 %, D: 66 % – 72 %, E: 60 % – 65 %, Fx: 59 % and less.	
<b>Learning outcomes:</b> Knowledge: after successful complete of the course student should understand the concept of e-health, basic terms, principles, content, the tendency to build one medical system , the courses in e-health in medicine Skills: to manage the simple telemedicine devices, to understand their functions, connection with others devices	
<b>Class syllabus:</b> Definition of e-health, e-prescription, e-medical systems, artificial intelligence, in medicine, aspects of law, medical databases, nanomedicine, virtual reality in medicine and its application, pros and cons of e-health in medicine	
<b>Recommended literature:</b> A. Venot, A. Burgun, C. Quantin. Medical Informatics, e-Health, Fundamentals and Applications. Springer-Verlag France 2014, Springer, Paris, 978-2-8178-0477-4 Other innovated printed and internet sources available.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 80					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> doc. RNDr. Martin Kopáni, PhD., doc. RNDr. Pavol Vítovič, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚLFBIT/L-S- VL a-151-5/22	<b>Course title:</b> Principles of E-Health
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Continuously: - Active participation in lectures Final exam: - Semestral project submission Test rating: A: 91 % – 100 %, B: 81 % – 90 %, C: 73 % – 80 %, D: 66 % – 72 %, E: 60 % – 65 %, Fx: 59 % and less.	
<b>Learning outcomes:</b> Knowledge: after successful complete of the course student should understand the concept of e-health, basic terms, principles, content, the tendency to build one medical system , the courses in e-health in medicine Skills: to manage the simple telemedicine devices, to understand their functions, connection with others devices	
<b>Class syllabus:</b> Definition of e-health, e-prescription, e-medical systems, artificial intelligence, in medicine, aspects of law, medical databases, nanomedicine, virtual reality in medicine and its application, pros and cons of e-health in medicine	
<b>Recommended literature:</b> A. Venot, A. Burgun, C. Quantin. Medical Informatics, e-Health, Fundamentals and Applications. Springer-Verlag France 2014, Springer, Paris, 978-2-8178-0477-4 Other innovated printed and internet sources available.	
<b>Languages necessary to complete the course:</b> english	
<b>Notes:</b>	

<b>Past grade distribution</b>					
Total number of evaluated students: 21					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
<b>Lecturers:</b> doc. RNDr. Martin Kopáni, PhD., doc. RNDr. Pavol Vítovič, PhD.					
<b>Last change:</b> 01.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-173-4/22	<b>Course title:</b> Principles of Medical Education 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% active participation in lectures <b>Final exam:</b> - Practical part - writing an essay on a given topic - theoretical part - oral exam <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge:</b> Knowledge: After completing the subject, the student acquires knowledge about the specifics of adult education with a focus on Medical Education in an active way of learning during the lessons. Students will learn deeper using critical thinking, and clinical reasoning using clinical cases and learn with use of reflection and personal feedback. Students will be familiar with basic principles of using Simulations in medical Education, especially High-Fidelity simulators, standardized patients and use of e-learning and virtual patients. They will be familiar with current forms of Medical Education, as well as with new methods in MedEd, active learning (eg Team-based learning, problem-based learning, peer-to-peer, near-peer learning) and their effective use during the classes. Students gain knowledge about the specifics of the bedside teaching, structured consultation models, and communication skills needed. They are also will be familiar with basics of Medical Education Research. <b>Skills:</b> The student will acquire the skills in a hands-on way to use effective strategies needed to educate students at medical faculties as an educator in preclinical as well as clinical education after graduation and prepare for the role of a physician-educator for the students as well for future patients. They will participate in a project focused on Medical Education Research.	
<b>Class syllabus:</b> 1. Adult learning, role of motivation in teaching and learning, integration of medical disciplines in clinical case teaching 2. New methods of teaching and learning (hands-on)	

3. Clinical reasoning in Medical Education, the role of reflection and feedback in learning. 4. Simulation teaching – High-fidelity simulators in teaching
5. Active forms of education in medicine (active lectures, group-based learning, team-based learning, project-based learning, problem-based learning, case-based learning)
6. Bedside teaching, structured consultation models, and communication skills
7. Peer-to-peer, near-peer teaching, teaching in groups
8. Assessment in medical education, standardized patients, OSCEs (Objective Structured Clinical Exam)
9. Research in Medical Education, Inovative Curriculum development, Integrated curriculum
10. Project in Medical Education

**Recommended literature:**

Dent JA, Harden RM. A Practical Guide for Medical Teachers. 6th ed. Churchill Livingstone Elsevier, 2021. 496 s.

Harden RM, Laidlaw JM. Essential Skills for a medical teacher. An introduction to teaching and learning medicine. Churchill Livingstone Elsevier. 2020. 334 s.

AMEE and BEME Educational Guides

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 8

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Daniela Ostatníková, PhD., MUDr. Silvia Hnilicová, PhD., doc. MUDr. Tomáš Dallos, PhD., doc. RNDr. Pavol Vitovič, PhD.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-173-5/22	<b>Course title:</b> Principles of Medical Education 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% active participation in lectures <b>Final exam:</b> - Practical part - writing an essay on a given topic - theoretical part - oral exam <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge:</b> Knowledge: After completing the subject, the student acquires knowledge about the specifics of adult education with a focus on Medical Education in an active way of learning during the lessons. Students will learn deeper using critical thinking, and clinical reasoning using clinical cases and learn with use of reflection and personal feedback. Students will be familiar with basic principles of using Simulations in medical Education, especially High-Fidelity simulators, standardized patients and use of e-learning and virtual patients. They will be familiar with current forms of Medical Education, as well as with new methods in MedEd, active learning (eg Team-based learning, problem-based learning, peer-to-peer, near-peer learning) and their effective use during the classes. Students gain knowledge about the specifics of the bedside teaching, structured consultation models, and communication skills needed. They are also will be familiar with basics of Medical Education Research. <b>Skills:</b> The student will acquire the skills in a hands-on way to use effective strategies needed to educate students at medical faculties as an educator in preclinical as well as clinical education after graduation and prepare for the role of a physician-educator for the students as well for future patients. They will participate in a project focused on Medical Education Research.	
<b>Class syllabus:</b> 1. Adult learning, role of motivation in teaching and learning, integration of medical disciplines in clinical case teaching 2. New methods of teaching and learning (hands-on)	

3. Clinical reasoning in Medical Education, the role of reflection and feedback in learning. 4. Simulation teaching – High-fidelity simulators in teaching
5. Active forms of education in medicine (active lectures, group-based learning, team-based learning, project-based learning, problem-based learning, case-based learning)
6. Bedside teaching, structured consultation models, and communication skills
7. Peer-to-peer, near-peer teaching, teaching in groups
8. Assessment in medical education, standardized patients, OSCEs (Objective Structured Clinical Exam)
9. Research in Medical Education, Inovative Curriculum development, Integrated curriculum
10. Project in Medical Education

**Recommended literature:**

Dent JA, Harden RM. A Practical Guide for Medical Teachers. 6th ed. Churchill Livingstone Elsevier, 2021. 496 s.

Harden RM, Laidlaw JM. Essential Skills for a medical teacher. An introduction to teaching and learning medicine. Churchill Livingstone Elsevier. 2020. 334 s.

AMEE and BEME Educational Guides

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Daniela Ostatníková, PhD., MUDr. Silvia Hnilicová, PhD., doc. MUDr. Tomáš Dallos, PhD., doc. RNDr. Pavol Vitovič, PhD.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-174-4/22	<b>Course title:</b> Principles of Medical Education 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% active participation in lectures <b>Final exam:</b> - Practical part - writing an essay on a given topic - theoretical part - oral exam <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge, skills, attitudes:</b> <b>Clinical reasoning concepts</b> Demonstrate an understanding of Clinical reasoning theories (e.g. script, dual process), How clinical reasoning ability develops, The role of clinical reasoning in safe and effective care for patients, Cognitive errors, Other factors that may impair the clinical reasoning process/outcome <b>History and physical examination</b> Demonstrate the ability to use: Effective communication skills and purposeful interviewing, History taking from all available sources when relevant, Hypothesis-driven enquiry, Knowledge of epidemiology, probability of the presence of signs and symptoms in specific diseases, and likelihood ratios to estimate clinical probability <b>Choosing and interpreting diagnostic tests</b> Demonstrate a practical understanding of and ability to use the following: Pre-test (clinical) probability and post-test probability. Sensitivity and specificity, Predictive values, Factors other than disease that influence test results, Important characteristics of commonly used tests relevant to local context, Evidence-based guidelines <b>Problem identification and management</b> Demonstrate an ability to produce: An accurate problem representation or problem list, Use of semantic qualifiers and precise medical terms, Prioritised differential diagnosis, including relevant ‘must not miss’ diagnoses, Safe actions when a diagnosis is not possible, Management plans taking patient’s preferences, co-morbidities, resources, cost-effectiveness and local policies in to account, Metacognition and critical thinking in decision making	

Shared decision making Demonstrate the ability to make decisions with: Patients and carers, Clinical teams, Guidelines, scores and decision aids, Evidence-based medicine applied to the patient's circumstances, Professional values and behaviours that support decision making  
Medical Ethical Reasoning: Ethical knowledge is composed of knowledge of ethical principles, ethical theory, professional codes and legal regulations. Cognitive reasoning skill is composed of problem identification and information gathering, decision making, planning and action. The domain of attitudes refers to the values or beliefs governing the justification. The justification is related to logic-based decision which can be concluded by considering the different perspectives of all the parties involved, minimizing potential conflicts among stakeholders and between competing principles and evaluating consequences.

**Class syllabus:**

Clinical reasoning concepts, Clinical reasoning theories (e.g. script, dual process), The role of clinical reasoning in safe and effective care for patients, Cognitive errors, Other factors that may impair the clinical reasoning process/outcome

Specifics of History taking and physical examination: Effective communication skills and purposeful interviewing, History taking from all available sources, Hypothesis-driven enquiry, Knowledge of epidemiology, probability of the presence of signs and symptoms in specific diseases, and likelihood ratios to estimate clinical probability

Specifics of choosing and interpreting diagnostic tests: Pre-test (clinical) probability and post-test probability. Sensitivity and specificity, Predictive values, Factors other than disease that influence test results, Important characteristics of commonly used tests relevant to local context, Evidence-based guidelines

Problem identification and management: An accurate problem representation or problem list, Use of semantic qualifiers and precise medical terms, Prioritized differential diagnosis, including relevant 'must not miss' diagnoses, Safe actions when a diagnosis is not possible, Management plans taking patient's preferences, co-morbidities, resources, cost-effectiveness and local policies, Metacognition and critical thinking in decision making

Shared decision making with patients and caregivers, Clinical teams, Guidelines, scores and decision aids, Evidence-based medicine applied to the patient's circumstances, Professional values and behaviors that support decision making, Strategies that build understanding, strategies that employ structured , clinical cases and corrective feedback, strategies that structure knowledge around problem-specific concepts, strategies that employ retrieval, strategies that differ according to stage of learning

Medical Ethical Reasoning: Ethical knowledge is composed of knowledge of ethical principles, ethical theory, professional codes and legal regulations. Cognitive reasoning skill is composed of problem identification and information gathering, decision making, planning and action. The domain of attitudes refers to the values or beliefs governing the justification. The justification is related to logic-based decision which can be concluded by considering the different perspectives of all the parties involved, minimizing potential conflicts among stakeholders and between competing principles and evaluating consequences.

Clinical Ethical Reasoning and its contribution to medical education: Ethical knowledge is composed of knowledge of ethical principles, ethical theory, professional codes and legal regulations. Cognitive reasoning skill is composed of problem identification and information gathering, decision making, planning and action. The domain of attitudes refers to the values or beliefs governing the justification.

**Recommended literature:**

Kassirer, Wong, Kopelman: Learning clinical reasoning, 2010, ISBN 978-0781795159

Irfan: The Hands-on Guide to Clinical Reasoning in Medicine, 2019, ISBN 978-1119244035

Frain, Cooper: ABC of Clinical Reasoning, 2016, ISBN-13: 978-1119059080  
Jonsen, A.R., Siegler, M., Winslade, W.J. Clinical Ethics. A practical Approach to Ethical in Clinical Medicine. McGraw Hill / Medical, 2015.

**Languages necessary to complete the course:**  
english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 6

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** doc. MUDr. Tomáš Dallos, PhD., prof. MUDr. Daniela Ostatníková, PhD., MUDr. Silvia Hnilicová, PhD., doc. RNDr. Pavol Vitovič, PhD.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.FyÚ/L-S-VLa-174-5/22	<b>Course title:</b> Principles of Medical Education 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% active participation in lectures <b>Final exam:</b> - Practical part - writing an essay on a given topic - theoretical part - oral exam <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge, skills, attitudes:</b> <b>Clinical reasoning concepts</b> Demonstrate an understanding of Clinical reasoning theories (e.g. script, dual process), How clinical reasoning ability develops, The role of clinical reasoning in safe and effective care for patients, Cognitive errors, Other factors that may impair the clinical reasoning process/outcome <b>History and physical examination</b> Demonstrate the ability to use: Effective communication skills and purposeful interviewing, History taking from all available sources when relevant, Hypothesis-driven enquiry, Knowledge of epidemiology, probability of the presence of signs and symptoms in specific diseases, and likelihood ratios to estimate clinical probability <b>Choosing and interpreting diagnostic tests</b> Demonstrate a practical understanding of and ability to use the following: Pre-test (clinical) probability and post-test probability. Sensitivity and specificity, Predictive values, Factors other than disease that influence test results, Important characteristics of commonly used tests relevant to local context, Evidence-based guidelines <b>Problem identification and management</b> Demonstrate an ability to produce: An accurate problem representation or problem list, Use of semantic qualifiers and precise medical terms, Prioritised differential diagnosis, including relevant ‘must not miss’ diagnoses, Safe actions when a diagnosis is not possible, Management plans taking patient’s preferences, co-morbidities, resources, cost-effectiveness and local policies in to account, Metacognition and critical thinking in decision making	

Shared decision making Demonstrate the ability to make decisions with: Patients and carers, Clinical teams, Guidelines, scores and decision aids, Evidence-based medicine applied to the patient's circumstances, Professional values and behaviours that support decision making  
Medical Ethical Reasoning: Ethical knowledge is composed of knowledge of ethical principles, ethical theory, professional codes and legal regulations. Cognitive reasoning skill is composed of problem identification and information gathering, decision making, planning and action. The domain of attitudes refers to the values or beliefs governing the justification. The justification is related to logic-based decision which can be concluded by considering the different perspectives of all the parties involved, minimizing potential conflicts among stakeholders and between competing principles and evaluating consequences.

**Class syllabus:**

Clinical reasoning concepts, Clinical reasoning theories (e.g. script, dual process), The role of clinical reasoning in safe and effective care for patients, Cognitive errors, Other factors that may impair the clinical reasoning process/outcome

Specifics of History taking and physical examination: Effective communication skills and purposeful interviewing, History taking from all available sources, Hypothesis-driven enquiry, Knowledge of epidemiology, probability of the presence of signs and symptoms in specific diseases, and likelihood ratios to estimate clinical probability

Specifics of choosing and interpreting diagnostic tests: Pre-test (clinical) probability and post-test probability. Sensitivity and specificity, Predictive values, Factors other than disease that influence test results, Important characteristics of commonly used tests relevant to local context, Evidence-based guidelines

Problem identification and management: An accurate problem representation or problem list, Use of semantic qualifiers and precise medical terms, Prioritized differential diagnosis, including relevant 'must not miss' diagnoses, Safe actions when a diagnosis is not possible, Management plans taking patient's preferences, co-morbidities, resources, cost-effectiveness and local policies, Metacognition and critical thinking in decision making

Shared decision making with patients and caregivers, Clinical teams, Guidelines, scores and decision aids, Evidence-based medicine applied to the patient's circumstances, Professional values and behaviors that support decision making, Strategies that build understanding, strategies that employ structured , clinical cases and corrective feedback, strategies that structure knowledge around problem-specific concepts, strategies that employ retrieval, strategies that differ according to stage of learning

Medical Ethical Reasoning: Ethical knowledge is composed of knowledge of ethical principles, ethical theory, professional codes and legal regulations. Cognitive reasoning skill is composed of problem identification and information gathering, decision making, planning and action. The domain of attitudes refers to the values or beliefs governing the justification. The justification is related to logic-based decision which can be concluded by considering the different perspectives of all the parties involved, minimizing potential conflicts among stakeholders and between competing principles and evaluating consequences.

Clinical Ethical Reasoning and its contribution to medical education: Ethical knowledge is composed of knowledge of ethical principles, ethical theory, professional codes and legal regulations. Cognitive reasoning skill is composed of problem identification and information gathering, decision making, planning and action. The domain of attitudes refers to the values or beliefs governing the justification.

**Recommended literature:**

Kassirer, Wong, Kopelman: Learning clinical reasoning, 2010, ISBN 978-0781795159

Irfan: The Hands-on Guide to Clinical Reasoning in Medicine, 2019, ISBN 978-1119244035

Frain, Cooper: ABC of Clinical Reasoning, 2016, ISBN-13: 978-1119059080  
Jonsen, A.R., Siegler, M., Winslade, W.J. Clinical Ethics. A practical Approach to Ethical in Clinical Medicine. McGraw Hill / Medical, 2015.

**Languages necessary to complete the course:**  
english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 0

A	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** prof. MUDr. Daniela Ostatníková, PhD., MUDr. Silvia Hnilicová, PhD., doc. MUDr. Tomáš Dallos, PhD., doc. RNDr. Pavol Vitovič, PhD.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.PK/L-S-VLa-062/19	<b>Course title:</b> Psychiatry 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Written test (60 % at least). Written test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less	
<b>Learning outcomes:</b> <b>Knowledge:</b> <ul style="list-style-type: none"> <li>- Understanding the etiology, pathogenesis, epidemiology, clinical manifestations of mental disorders.</li> <li>- Learning the investigational procedures, principles of biological and non-biological treatment and psychosocial rehabilitation in psychiatry</li> <li>- Understanding the legal status and assessment of persons with mental disorders in childhood and adulthood.</li> <li>- Understanding the causes, clinical, diagnostic and therapeutic procedures of emergency conditions in psychiatry.</li> <li>- Understanding the psychopathological symptoms and syndromes.</li> </ul> <b>Skills:</b> <ul style="list-style-type: none"> <li>- Mastering the general principles of communication with patients suffering mental disorder in childhood and adulthood.</li> <li>- Ability to identify psychopathological symptoms within clinical psychiatric examination of persons with psychiatric disorders in childhood and adulthood.</li> <li>- Ability to investigate the psychological functions (clinically, screening scales) specifically.</li> <li>- Identification of relevant data from medical history and assessing their potential relationship to psychopathological symptoms, using the diagnostic workup procedures.</li> </ul>	
<b>Class syllabus:</b> Course syllabus summary: Causes, mechanisms and epidemiology of mental disorders. Psychopathology, classification, diagnostics, differential diagnosis, treatment, rehabilitation, assessment of psychiatric disorders in children and adults. First aid in psychiatry. Practicing of clinical examination, identification of symptoms, diagnostic conclusion and differential diagnosis,	

preparation of draft plan of further investigations and treatment of mental disorders. Training the use of screening and assessment scales.

**Recommended literature:**

Kolibáš, E. a kol.: Introduction to clinical psychiatry. Bratislava: Asklepios, 1996. 107 pp. ISBN 8096761005 (available online in PDF format)

Semple, D. – Smyth, R.: Oxford Handbook of Psychiatry, 2nd Edition. Oxford University Press, 2009. 977 pp. ISBN 9780199239467 (or newer edition)

Sadock, B. J. – Sadock, V. A.: Kaplan and Sadock's Synopsis of Psychiatry, 10th Edition. Lippincott Williams & Wilkins, 2010. 1470 pp. ISBN 9780781773270 (or newer edition)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 503

A	B	C	D	E	FX
10,74	46,52	27,63	11,73	3,38	0,0

**Lecturers:** prof. MUDr. Ján Pečeňák, CSc., doc. MUDr. Jana Trebatická, PhD., doc. MUDr. Ľubomíra Izáková, PhD., MUDr. Dana Krajčovičová, PhD., doc. MUDr. Mária Kráľová, CSc.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.PK/L-S-VLa-063/19	<b>Course title:</b> Psychiatry 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.PK/L-S-VLa-062/19 - Psychiatry 1	
<b>Course requirements:</b> 100 % participation at practical trainings <b>Exam:</b> 1) Written test (minimally for 60 %). Evaluation of the test: A: 91 – 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less 2) Oral exam: 2 questions (1 from general and 1 from special psychiatry). Overall evaluation will be assigned according to the average of obtained partial evaluations.	
<b>Learning outcomes:</b> <b>Knowledge:</b> - Understanding the classification of mental disorders according to ICD-10 and ICD-11. - Learning the etiology, pathogenesis, epidemiology, clinical presentations, diagnostics, differential diagnostics, treatment, rehabilitation and appraisal of the main groups of mental disorders in children and adults. <b>Skills:</b> - To handle clinical psychiatric examination of persons with mental disorder, to elaborate the data from documentation, to work-out the psychiatric findings. - To demonstrate the ability for examination of cognitive functions in adults by means of standardized assessment scale. - To propose correct therapeutic procedures from psychopharmacology, biological and non-biological therapeutic methods.	
<b>Class syllabus:</b> The causes and the mechanisms of creation and epidemiology of individual mental disorders. Diagnostic criteria and differential diagnostics. Treatment, rehabilitation and appraisal of mental disorders in childhood, adolescence and adulthood. Clinical examination, identification of signs and symptoms, differentially diagnostic elaboration and diagnostic conclusions. Formation of examination plan and proposal for treatment in selected groups of mental disorders in childhood and adulthood.	
<b>Recommended literature:</b>	

Jarema, M. (Ed) et al: Practical aspects of Psychiatry. Amepra, Praha, 2009, 408 pp. ISBN 9788086694085  
 Kolibáš, E. a kol.: Introduction to clinical psychiatry. Bratislava: Asklepios, 1996. 107 pp. ISBN 8096761005 (available online in PDF format)  
 Semple, D. – Smyth, R.: Oxford Handbook of Psychiatry, 2nd Edition. Oxford University Press, 2009. 977 pp. ISBN 9780199239467 (or newer edition)  
 Sadock, B. J. – Sadock, V. A.: Kaplan and Sadock's Synopsis of Psychiatry, 10th Edition. Lippincott Williams & Wilkins, 2010. 1470 pp. ISBN 9780781773270 (or newer edition)

**Languages necessary to complete the course:**  
 english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 473

A	B	C	D	E	FX
17,76	32,14	28,54	12,05	8,25	1,27

**Lecturers:** prof. MUDr. Ján Pečeňák, CSc., doc. MUDr. Jana Trebatická, PhD., doc. MUDr. Ľubomíra Izáková, PhD., doc. MUDr. Mária Kráľová, CSc., MUDr. Viktor Segeda, PhD., MUDr. Michal Turček, PhD., PhDr. Zuzana Hradečná, MUDr. Zuzana Matzová, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.RK/L-S-VLa-095/22	<b>Course title:</b> Radiology and Nuclear Medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPA/L-S-VLa-055/18 - Pathological Anatomy 2 and LF.ÚPF/L-S-VLa-057/18 - Pathological Physiology 2	
<b>Course requirements:</b> 100% participation at seminars and interactive learning of case studies, after each seminar verification of knowledge by a written test with a success rate of at least 60% An exam: - 1x written test Test rating: A: 91-100%, B: 81-99%, C: 73-80%, D: 66-72%, E: 60-65%, Fx: 59% and less - practical part - evaluation of images from individual imaging modalities - theoretical part - 2 questions (according to the syllabus) The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> The theory and basic practical principles and indications of radiological imaging methods, functional imaging and non-imaging methods of nuclear medicine and therapeutic methods of nuclear medicine. To get acquainted with the diagnostic parameters of individual examination methods (sensitivity, specificity, diagnostic accuracy, positive and negative predictive value of the test result). <b>Skills:</b> <b>Radiology</b> - ability to determine radiological modalities - know the basic indications of individual imaging methods - knowledge of axial anatomy and topo-anatomical relationships - principles of interpretation of radiological examination methods <b>Nuclear medicine</b> - ability to identify functional imaging and non-imaging tests - know the principles and indications of functional imaging and non-imaging examination methods - know the principles and indications of treatment with open emitters	
<b>Class syllabus:</b>	

Radiology: History of radiology in the world and in the Slovak Republic. X-ray, principle of radiation, properties of X-rays, radiation protection. Principles of classical radiology, ultrasonography, CT and MR and interventional radiology.

Examination methods in imaging of the respiratory system - principles, indications, normal findings and pathological conditions. Examination methods in imaging the cardiovascular system - principles, indications, normal findings and pathological conditions.

Examination methods in imaging the gastrointestinal system - principles, indications, normal findings and pathological conditions. Examination methods in imaging the uropoietic and reproductive system - principles, indications, normal findings and pathological conditions.

Examination methods in imaging the nervous system - principles, indications, normal findings and pathological conditions. Examination methods in imaging the musculoskeletal system - principles, indications, normal findings and pathological conditions. Basic principles of mamodiagnosics - mammography, mamosonography, MR-mammography and interventional procedures in mamodiagnosics. Intervention methods in radiology - vascular and nonvascular interventions - technique, methodology, indications. Fundamentals of scientific work in radiology.

Nuclear medicine: Principles of functional imaging and treatment in nuclear medicine.

Principles of non-imaging examination methods in nuclear medicine. Physical principles of diagnostic and therapeutic methods of nuclear medicine. Instrumentation and radiopharmaceuticals in nuclear medicine. Functional imaging methods in endocrinology, nephrology, pneumology, cardiology, neurology, rheumatology and oncology in children and adults. Therapeutic methods of nuclear medicine in children and adults. Fundamentals of scientific work in nuclear medicine.

**Recommended literature:**

Sutton D. Textbook of Radiology and Imaging, ISBN: 9788131220160, Elsevier, 2014

Lange Basic Radiology, 2010, Chen MYM, Pope TL, Ott DJ, English, 2010, ISBN: 0071627081

www.radiopaedia.org

• www.swansea-radiology.co.uk

European Nuclear Medicine Guide, The 2020 Edition: <https://www.eanm.org/publicpress/european-nuclear-medicine-guide/>

Špánik S. et al. Introduction to Clinical Oncology, Chapter: Balogova S. Nuclear Medicine in Oncology p.82-112, 2021, ISBN 978-80-2234988-B

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 292

A	B	C	D	E	FX
6,16	35,27	25,34	21,92	11,3	0,0

**Lecturers:** prof. MUDr. Viera Lehotská, PhD., prof. MUDr. Soňa Balogová, PhD., doc. MUDr. Jana Poláková Mištinová, PhD., MUDr. Vladimír Javorka, PhD., MUDr. Lucia Vanovčanová, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-083/16	<b>Course title:</b> Slovak Language 1
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 1.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the overall assessment) and one final test (100 points, makes 85% of the overall assessment). Test assessment: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall grade (minimum of 60%) is determined by the grades obtained in the midterm (15%) and final (85%) test and is their weighted average.	
<b>Learning outcomes:</b> <b>Knowledge:</b> To acquire basic receptive and productive communication skills required for future professional needs of students for purposes of practical communication in spoken and written language in social conversation and in the subject field. <b>Skills:</b> To be able to understand and communicate in the most common professional language, showing knowledge of a range and variety of vocabulary and of appropriate register in simple and routine tasks, to understand basic grammar and terminology and concepts focusing on their communicative importance (in accordance with the individual semesters).	
<b>Class syllabus:</b> Slovak alphabet and sounds. Greetings in Slovak. Verb “to be”. Countries, nationalities, and languages – where am I from. Occupations and medical professions – nouns and gender. Persons – characteristics, adjective endings in Slovak. Objects and terms – characteristics, adjective endings in Slovak. Activities – verbs in Slovak, daily routine. Activities in the past – past tense in Slovak. Hospital – daily routine of medical personnel, the accusative case in Slovak. Family – basics of the family history taking. At the faculty – the locative case in Slovak. Every unit ends with a set of moodle exercises which contain assignments for independent work and consolidation of knowledge.	
<b>Recommended literature:</b> Bábellová, J., Hromadová, K.: Slovenský jazyk 1. Bratislava: Univerzita Komenského v Bratislave 2023. 144 p. ISBN 978-80-223-5601-5 Ďurajka, R., Jamrichová, V.: Slovenčina pre študentov medicíny. Bratislava: Univerzita Komenského v Bratislave 2022. 310 p. ISBN 978-80-223-5412-7	

<b>Languages necessary to complete the course:</b> Slovak, English					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 1590					
A	B	C	D	E	FX
38,05	30,5	14,78	8,43	6,04	2,2
<b>Lecturers:</b> Ing. Janka Bábellová, PhD., Mgr. Radoslav Ďurajka, PhD., PhDr. Valéria Jamrichová, Mgr. Marína Kšiňanová, PhD., Mgr. Ľubomír Holík, PhD., Mgr. Katarína Hromadová, PhD., PhDr. Tomáš Hamar, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Melinda Vasil'ová, PhD., Mgr. Mária Šibalová, PhD., Mgr. Petra Červeňová, PaedDr. Stanislav Kováč, PhD., Mgr. Zuzana Pekařová, Mgr. Ema Pavl'áková, PhD., Mgr. Marek Šibal, PhD.					
<b>Last change:</b> 22.05.2024					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-084/16	<b>Course title:</b> Slovak Language 2
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 1	
<b>Recommended semester:</b> 2.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚCJ/L-S-VLa-083/16 - Slovak Language 1	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the overall assessment) and one final test (100 points, makes 85% of the overall assessment). Test assessment: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall grade (minimum of 60%) is determined by the grades obtained in the midterm (15%) and final (85%) test and is their weighted average.	
<b>Learning outcomes:</b> <b>Knowledge:</b> To acquire basic receptive and productive communication skills required for future professional needs of students for purposes of practical communication in spoken and written language in social conversation and in the subject field. <b>Skills:</b> To be able to understand and communicate in the most common professional language, showing knowledge of a range and variety of vocabulary and of appropriate register in simple and routine tasks, to understand basic grammar and terminology and concepts focusing on their communicative importance (in accordance with the individual semesters).	
<b>Class syllabus:</b> Revision. Medical terminology – the genitive case. Numbers in medicine – the genitive case II. Preventive medical check-up. Healthy lifestyle – use of modal verbs in Slovak, conditional. Healthy lifestyle. Instructions for patient during basic medical examinations – imperative. Examination and medical history – asking basic questions, showing empathy and interest in patients’ problems. I feel sick – the dative case. Morning word round – the instrumental case. My future profession – future tense in Slovak, perfective and imperfective verbs. Every unit ends with a set of moodle exercises which contain assignments for independent work and consolidation of knowledge.	
<b>Recommended literature:</b> Bábellová, J., Hromadová, K.: Slovenský jazyk 2. Bratislava: Univerzita Komenského v Bratislave 2023. 153 p. ISBN 978-80-223-5673-2 Ďurajka, R., Jamrichová, V.: Slovenčina pre študentov medicíny. Bratislava: Univerzita Komenského v Bratislave 2022. 310 p. ISBN 978-80-223-5412-7	

<b>Languages necessary to complete the course:</b> Slovak, English					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 1516					
A	B	C	D	E	FX
38,72	28,03	16,09	9,76	4,88	2,51
<b>Lecturers:</b> Ing. Janka Bábelová, PhD., Mgr. Radoslav Ďurajka, PhD., PhDr. Valéria Jamrichová, Mgr. Marína Kšiňanová, PhD., Mgr. Ľubomír Holík, PhD., Mgr. Katarína Hromadová, PhD., PhDr. Tomáš Hamar, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Mária Šibalová, PhD., Mgr. Petra Červeňová, Mgr. Melinda Vasil'ová, PhD., PaedDr. Stanislav Kováč, PhD., Mgr. Zuzana Pekařová, Mgr. Ema Pavl'áková, PhD., Mgr. Marek Šibal, PhD.					
<b>Last change:</b> 22.05.2024					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-088/18	<b>Course title:</b> Slovak Language 3
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 3.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚCJ/L-S-VLa-084/16 - Slovak Language 2	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the overall assessment) and one final test (100 points, makes 85% of the overall assessment). Test assessment: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall grade (minimum of 60%) is determined by the grades obtained in the midterm (15%) and final (85%) test and is their weighted average.	
<b>Learning outcomes:</b> <b>Knowledge:</b> To acquire basic receptive and productive communication skills required for future professional needs of students for purposes of practical communication in spoken and written language in social conversation and in the subject field. <b>Skills:</b> To be able to understand and communicate in the most common professional language, showing knowledge of a range and variety of vocabulary and of appropriate register in simple and routine tasks, to understand basic grammar and terminology and concepts focusing on their communicative importance (in accordance with the individual semesters).	
<b>Class syllabus:</b> Revision. Medical drugs and their dosage, side effects of the most used drugs. Organs and their functions. The most common diseases and their signs and symptoms – bronchitis, angina, flu, laryngitis, food poisoning, depression, myocardial infarction, gallbladder attack, fracture, stroke, pneumonia, renal stones – asking questions about the symptoms, writing medical reports. ECG examination – giving instructions during the examination. Vaccinations compulsory in Slovakia. Examination in neurology – giving instructions during the examination and describing patient reactions. Nursing – polite and caring communication with a patient, showing empathy. Postoperative care. First steps to history taking – structure of anamnestic interview. Study department and structure of the faculty – asking for support during the study. Every unit ends with a set of moodle exercises which contain assignments for independent work and consolidation of knowledge.	
<b>Recommended literature:</b>	

Bábelová, J., Hromadová, K.: Slovenský jazyk 3. Bratislava: Univerzita Komenského v Bratislave 2024. 158 p., in print.  
Ďurajka, R., Jamrichová, V.: Slovenčina pre študentov medicíny. Bratislava: Univerzita Komenského v Bratislave 2022. 310 p. ISBN 978-80-223-5412-7

**Languages necessary to complete the course:**

Slovak, English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 1022

A	B	C	D	E	FX
29,35	27,98	20,94	11,64	8,51	1,57

**Lecturers:** Ing. Janka Bábelová, PhD., Mgr. Radoslav Ďurajka, PhD., PhDr. Valéria Jamrichová, Mgr. Marína Kšiňanová, PhD., Mgr. Ľubomír Holík, PhD., Mgr. Katarína Hromadová, PhD., PhDr. Tomáš Hamar, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Melinda Vasil'ová, PhD., Mgr. Ema Pavl'áková, PhD., Mgr. Zuzana Pekařová, Mgr. Petra Červeňová, Mgr. Marek Šibal, PhD., Mgr. Mária Šibalová, PhD., PaedDr. Stanislav Kováč, PhD.

**Last change:** 22.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-089/18	<b>Course title:</b> Slovak Language 4
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚCJ/L-S-VLa-088/18 - Slovak Language 3	
<b>Course requirements:</b> - 100% attendance at the practicals - 2 written tests (minimum 60% of correct answers) Test evaluation: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> Knowledge: To acquire basic receptive and productive communication skills required for further professional needs of students for purposes of practical communication in spoken and written language in social conversation and also in the subject field. To use the Slovak language in everyday situations and routine social conversation with focus on university and medical environment. Skills: Reading comprehension, to be able to understand most common spoken and professional language, to communicate in speech, showing knowledge of a range and variety of vocabulary and of appropriate register in simple and routine tasks, to be able to write independently, to understand basic grammar and terminology and concepts focusing on their communicative importance (in accordance with the individual semesters). Students work in Moodle (which contains assignments for independent work and consolidation of knowledge) and MS Teams (communication with the teacher, sharing supplementary materials and giving tasks). The emphasis is on promoting an independent approach to learning.	
<b>Class syllabus:</b> Vocabulary and communication phrases (diagnoses, diseases and illnesses, professional texts on selected medical topics, basic types of medical history with emphasis on personal, occupational, social and family history, question and answer in the history taking process). Grammar: perfective and imperfective verbs, conditional.	
<b>Recommended literature:</b> Haláková, M., Babelová, J., Kšiňanová, M., Kotlebová, P: Nová slovenčina ako liek. Bratislava: Univerzita Komenského, 2021. 311 p. ISBN 978-80-223-5156-0	
<b>Languages necessary to complete the course:</b>	

English, Slovak					
<b>Notes:</b>					
<b>Past grade distribution</b>					
Total number of evaluated students: 652					
A	B	C	D	E	FX
48,01	24,23	13,34	8,28	3,99	2,15
<b>Lecturers:</b> Ing. Janka Bábellová, PhD., Mgr. Radoslav Ďurajka, PhD., PhDr. Valéria Jamrichová, Mgr. Marína Kšiňanová, PhD., Mgr. Ľubomír Holík, PhD., Mgr. Katarína Hromadová, PhD., PhDr. Tomáš Hamar, PhD., Ing. Mgr. Erika Jurišová, PhD., Mgr. Ema Pavlákova, PhD., Mgr. Zuzana Pekařová, Mgr. Petra Červeňová, Mgr. Marek Šibal, PhD., Mgr. Mária Šibalová, PhD., Mgr. Melinda Vasiľová, PhD., PaedDr. Stanislav Kováč, PhD.					
<b>Last change:</b> 08.12.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚCJ/L-S-VLa-096/22	<b>Course title:</b> Slovak Language 4
<b>Educational activities:</b> <b>Type of activities:</b> practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 4.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚCJ/L-S-VLa-088/18 - Slovak Language 3	
<b>Course requirements:</b> 100% attendance at the practicals, 2 written tests: one midterm (50 points, makes 15% of the overall assessment) and one final test (100 points, makes 85% of the overall assessment). Test assessment: A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall grade (minimum of 60%) is determined by the grades obtained in the midterm (15%) and final (85%) test and is their weighted average.	
<b>Learning outcomes:</b> <b>Knowledge:</b> To acquire basic receptive and productive communication skills required for future professional needs of students for purposes of practical communication in spoken and written language in social conversation and in the subject field. <b>Skills:</b> To be able to understand and communicate in the most common professional language, showing knowledge of a range and variety of vocabulary and of appropriate register in simple and routine tasks, to understand basic grammar and terminology and concepts focusing on their communicative importance (in accordance with the individual semesters).	
<b>Class syllabus:</b> Diagnosis and history taking – detailed structure of anamnestic interview, types of the most used questions. Understanding a variety of possible answers, practicing advanced communication skills – forming follow-up questions and expanding patients’ answers. Internal medicine, cardiology, pneumology, diabetology, urology and nephrology, endocrinology, gastroenterology, rheumatology, and surgery – the most common diseases and health conditions in the specialty, their symptoms, case studies, anamnestic interview, reporting about patients’ problem. Basic types of therapies. Practicing instructions during performing medical examinations. Every unit ends with a set of moodle exercises which contain assignments for independent work and consolidation of knowledge.	
<b>Recommended literature:</b> Bábelová, J., Hromadová, K.: Slovenský jazyk 4. Bratislava: Univerzita Komenského v Bratislave 2024. 137 p. ISBN 978-80-223-5640-4.	

Ďurajka, R., Jamrichová, V.: Slovenčina pre študentov medicíny. Bratislava: Univerzita Komenského v Bratislave 2022. 310 p. ISBN 978-80-223-5412-7

**Languages necessary to complete the course:**

Slovak, English

**Notes:**

**Past grade distribution**

Total number of evaluated students: 298

A	B	C	D	E	FX
39,93	21,14	15,1	7,72	14,09	2,01

**Lecturers:** PhDr. Tomáš Hamar, PhD., Ing. Janka Bábellová, PhD., Mgr. Radoslav Ďurajka, PhD., Mgr. Ľubomír Holík, PhD., Mgr. Katarína Hromadová, PhD., PhDr. Valéria Jamrichová, Ing. Mgr. Erika Jurišová, PhD., Mgr. Marína Kšiňanová, PhD., PaedDr. Stanislav Kováč, PhD., Mgr. Mária Šibalová, PhD., Mgr. Marek Šibal, PhD., Mgr. Petra Červeňová, Mgr. Melinda Vasil'ová, PhD., Mgr. Zuzana Pekařová, Mgr. Ema Pavl'áková, PhD.

**Last change:** 22.05.2024

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ÚSLLE/L-S-VLa-065/19	<b>Course title:</b> Social Medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture / seminar <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals <b>Final exam:</b> - written test - oral exam: 3 questions <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> After successful completion of the course student will be able to: <ul style="list-style-type: none"> <li>- Understand the scope, mission, and tasks of social medicine.</li> <li>- Identify the most important periods from the history of medicine.</li> <li>- Describe the methods of population health assessment.</li> <li>- Describe the models and theories of health and disease, their determinants.</li> <li>- Explain the role of social determinants in shaping the health of population and individuals.</li> <li>- Understand the basic principles of health financing.</li> <li>- Know the basics of medical law and basic legal obligations of physician.</li> <li>- Understand main problems and challenges of global health.</li> <li>- Understand the principles of quality improvement and patient safety in health care.</li> <li>- Understand the obligation to protect human rights in medical practice.</li> <li>- Understand the concept of vulnerability and principles how to address the specific health care needs of vulnerable groups of population.</li> <li>- Describe the main principles and steps in evidence-based medicine</li> </ul> <b>Skills:</b> After successful completion of the course student will be able to: <ul style="list-style-type: none"> <li>- Measure and assess the health status of the population.</li> <li>- Analyze the health inequities in relation to social determinants.</li> <li>- Compare and analyze different types of health systems.</li> </ul>	

- Discuss and apply the health legislation and principles of medical law in health care.
- Discuss the role of international organizations in promotion and protection of health.
- Apply the principles of quality improvement and patient safety in medical practice.
- Address the health care needs of vulnerable groups of population.
- Identify and resolve human rights issues in medical practice.
- Search and apply the evidence-based approaches in medical practice.

**Class syllabus:**

Social medicine – origin, development, scope, its position in the system of medical sciences. History of medicine and health care. Health and disease: concepts, models, determinants, classification systems. Social determinants and health inequities. Health systems and health financing. Study of population health: sources of information, measures, methods of assessment. International Red Cross: mission, principles, tasks. World Health Organization: structure, mission, tasks, programmes, strategies. Basic concepts of sociology. Basics concepts of medical law. Rights of patients. Legal liability and medical malpractice in health care. Quality in health care: definitions, dimensions, quality management models in health care. Safety in healthcare. Health and human rights: concept, international human rights laws and norms, the right to health. Human resources in health care. Evidence-based medicine: definition, principles, steps, PICO. Health of vulnerable groups of population. Health promotion and health education.

**Recommended literature:**

Kostičová M. (ed.). Social Medicine. Bratislava: Comenius University in Bratislava, 2015.  
Kostičová, M., Ozorovský, V., Badalík L., Fabian G. An Introduction to Social Medicine. Bratislava: Asklepios, 2011.

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 623

A	B	C	D	E	FX
80,26	15,73	2,73	0,8	0,48	0,0

**Lecturers:** doc. MUDr. Vojtech Ozorovský, CSc., Mgr. et Mgr. Silvia Capíková, PhD., doc. MUDr. Michaela Kostičová, PhD., MPH

**Last change:** 29.11.2022

**Approved by:**

## STATE EXAM DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ChK/L-VLa-ŠS-2/15	<b>Course title:</b> Surgery
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>State exam syllabus:</b>	
<b>Last change:</b>	
<b>Approved by:</b>	

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ChK1/L-S-VLa-104/19	<b>Course title:</b> Surgery - summer practice
<b>Educational activities:</b> <b>Type of activities:</b> practice <b>Number of hours:</b> <b>per week: per level/semester:</b> 80s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> one-hundred percent participation in internships and seminars	
<b>Learning outcomes:</b> Knowledge: Mastering diagnostics, conservative and surgical treatment in abdominal surgery and traumatology theoretically. Skills: Establish examination procedures, prescribe the required treatment. Scrubbing-in for abdominal surgery, especially in sudden abdominal events. Master the indication criteria for surgical diseases. Diagnostic procedures and laparoscopic dexterity on the simulator. Simulation workplace.	
<b>Class syllabus:</b> Examination of a surgical patient, treatment of injuries. Outpatient department - assistance in small surgical procedures, performing small surgical procedures under supervision, bandages, wound dressings and plastering, diagnostic examinations. Work in the department - examination and diagnosis of sudden abdominal events, indications for surgeries, preoperative preparation of patients, postoperative monitoring, treatment of patients, scrubbing-in to operations. X-ray evaluation, evaluation of ultrasound and CT findings. Perform emergency service once.	
<b>Recommended literature:</b> Breza a spol.: Všeobecná a špeciálna urológia II. vydanie, Bratislava UK 2010 Breza, J a kol.: Princípy chirurgie, Slovak Academic Press, 2016, 4.diel série Cameron, J.: Current Surgical Therapy. 8th ed. London: Churchill Livingstone, 2004, Coran G. Arnold at all.: Pediatric Surgery, Vol. 1, 2, Elsevier 2012, Černý, J. (ed.): Chirurgia tráviacej rúry. 4 zv. Martin: Osveta, 1988 Černý, J. (ed.): Špeciálna chirurgia 2. Chirurgia brušných orgánov a retroperitonea, Martin: Osveta, 1992 Černý, J. (ed.): Špeciálna chirurgia. 4 zv. Martin: Osveta, 1988-1995. Durdík, Š.: Vybrané kapitoly z onkologickej chirurgie. Bratislava: WillArt, 2009, 304s. Ferko, A., Vobořil, Z. (ed.): Chirurgie v kostce. Praha: Grada, 2002. 596 s. Huťan M. a kol.: Základy všeobecnej a špeciálnej chirurgie. Bratislava UK2012 (198 s.)	

Kaušitz, J. a kol.: Onkológia. VEDA, 663 s.  
 Kaušitz, J. a kol.: Špeciálna onkológia. Solen, 2020 692 s.  
 Kirk, R.M.: General Surgical Operations. 5th ed. London: Churchill Livingstone, 2006  
 Marek, V., Durdík, Š.: Akútna apendicitída – Včasná diagnostika a predoperačná rozvaha, 2021, 120s.  
 Olejník, J. (ed.): Perioperačný manuál chirurga. Bratislava: Ebner, 2002, 388 s.  
 Olejník, J. (ed.): Akútna pankreatitída. Bratislava: Ebner, 2002, 68 s.  
 Pechan, J.: Princípy chirurgie, PRIMA –PRINT, 2013, 3.diel série  
 Pokorný V. a kol.: Traumatológia. 1.vyd. 2012 Praha Triton (307 st.)  
 Sabiston Textbook of Surgery 20th Edition, Elsevier 2016  
 Siman, J. a kol.: Princípy chirurgie, Slovak Academic Press, 2007, 1.diel série  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série A  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série B  
 Škultéty, J. : Špeciálna chirurgia I., Univerzita Komenského v Bratislave, 2014  
 Štencl, J., Holéczy, P.: Základné laparoskopické operácie v chirurgii. Martin: Osveta, 2001. 131 s.  
 Šteňo J.: Neurochirurgia, s. 3-40. In: Ohrádka B. a kol.: Špeciálna chirurgia I. , 2. preprac. vyd. Bratislava: Univerzita Komenského, 2001, 201 s. ISBN 80-223-1620-2.  
 Šteňo J.: Neurochirurgia, s. 5-298 In: Haruštiak S., ed. Princípy chirurgie II. Bratislava: SAP, 2010, 848 s. ISBN 978-80-8095-053-8  
 Vidiščák, M. a kol.: Novorodenecká chirurgia I, M-Servis 2008  
 Vrtík, L. a kol.: Základy chirurgie, Univerzita Komenského v Bratislave, 2019  
 Way, L.W. (ed.): Současná chirurgická diagnostika a léčba. Praha: Grada, 2000, 1660 s.  
 Zacharias Zachariou: Pediatric Surgery Digest, Springer 2009  
 Zeman M., Krška Z. a kolektív: Chirurgická propedeutika tretie doplnené a prepracované vydanie 2013, Praha Grada 2013 (512 strán)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 479

ABS0

100,0

**Lecturers:** prof. MUDr. Štefan Durdík, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ChK1/L-S-VLa-021/19	<b>Course title:</b> Surgery 1
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 40s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ChK1/L-S-VLa-026/18 - Surgical Propedeutics	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: 3 question (general examination, special systems, laboratory test) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Theoretical knowledge of benign and malignant diseases of the esophagus and stomach. Hernias in children and adults. Diagnostic and therapeutic features of acute abdomen (classification, symptoms, examination methods, treatment) in adults and children. Surgical diseases of the venous and lymphatic system, peripheral and arterial system. Pancreatitis diagnostics, classification, diagnosis, treatment. <b>Skills:</b> Examination and diagnostics of acute abdomen, therapeutic suggestions, scrubbing-in during surgeries. Diagnostic procedures and laparoscopic skill on the trainer. Simulation workplace.	
<b>Class syllabus:</b> Surgical diseases of esophagus. Gastric tumours. Appendicitis. Acute peritonitis. Ileus. Acute abdomen in childhood. Pancreatitis. Surgical diseases of the venous and lymphatic system. Surgical diseases of the arterial system. Injuries of bones and joints of the upper and lower limbs. Spinal injury. Hernias.	
<b>Recommended literature:</b> Breza, J a kol.: Princípy chirurgie, Slovak Academic Press, 2016, 4.diel série Cameron, J.: Current Surgical Therapy. 8th ed. London: Churchill Livingstone, 2004, Coran G. Arnold at all.: Pediatric Surgery, Vol. 1, 2, Elsevier 2012,	

Černý, J. (ed.): Chirurgia tráviacej rúry. 4 zv. Martin: Osveta, 1988  
 Černý, J. (ed.): Špeciálna chirurgia 2. Chirurgia brušných orgánov a retroperitonea, Martin: Osveta, 1992  
 Černý, J. (ed.): Špeciálna chirurgia. 4 zv. Martin: Osveta, 1988-1995.  
 Durdík, Š.: Vybrané kapitoly z onkologickej chirurgie. Bratislava: WillArt, 2009, 304s.  
 Ferko, A., Vobořil, Z. (ed.): Chirurgie v kostce. Praha: Grada, 2002. 596 s.  
 Haruštiak, S. a kol.: Princípy chirurgie, Slovak Academic Press, 2010, 2.diel série  
 Huťan M. a kol.: Základy všeobecnej a špeciálnej chirurgie. Bratislava UK2012 (198 s.)  
 Kaušitz, J. a kol.: Onkológia. VEDA, 663 s.  
 Kaušitz, J. a kol.: Špeciálna onkológia. Solen, 2020 692 s.  
 Kirk, R.M.: General Surgical Operations. 5th ed. London: Churchill Livingstone, 2006  
 Marek, V., Durdík, Š.: Akútna apendicitída – Včasná diagnostika a predoperačná rozvaha, 2021, 120s.  
 Olejník, J. (ed.): Perioperačný manuál chirurga. Bratislava: Ebner, 2002, 388 s.  
 Olejník, J. (ed.): Akútna pankreatitída. Bratislava: Ebner, 2002, 68 s.  
 Pechan, J.: Princípy chirurgie, PRIMA –PRINT, 2013, 3.diel série  
 Pokorný V. a kol.: Traumatológia. 1.vyd. 2012 Praha Triton (307 st.)  
 Sabiston Textbook of Surgery 20th Edition, Elsevier 2016  
 Siman, J. a kol.: Princípy chirurgie, Slovak Academic Press, 2007, 1.diel série  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série A  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série B  
 Škultéty, J. : Špeciálna chirurgia I., Univerzita Komenského v Bratislave, 2014  
 Štencl, J., Holéczy, P.: Základné laparoskopické operácie v chirurgii. Martin: Osveta, 2001. 131 s.  
 Vidiščák, M. a kol.: Novorodenecká chirurgia I, M-Servis 2008  
 Vrtík, L. a kol.: Základy chirurgie, Univerzita Komenského v Bratislave, 2019  
 Way, L.W. (ed.): Současná chirurgická diagnostika a léčba. Praha: Grada, 2000, 1660 s.  
 Zacharias Zachariou: Pediatric Surgery Digest, Springer 2009  
 Zeman M., Krška Z. a kolektív: Chirurgická propedeutika tretie doplnené a prepracované vydanie 2013, Praha Grada 2013 (512 strán)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 668

A	B	C	D	E	FX
75,15	12,57	8,98	2,4	0,75	0,15

**Lecturers:** prof. MUDr. Peter Labaš, CSc., doc. MUDr. Milan Schnorrer, CSc., doc. MUDr. Marián Vician, CSc., MUDr. Boris Hrbatý, PhD., MUDr. Milan Oravský, PhD., MUDr. Richard Reis, PhD., prof. MUDr. Štefan Durdík, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ChK1/L-S-VLa-022/19	<b>Course title:</b> Surgery 2
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 30s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 8.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚPA/L-S-VLa-055/18 - Pathological Anatomy 2 and LF.ÚPF/L-S-VLa-057/18 - Pathological Physiology 2	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: 3 question (general examination, special systems, laboratory test) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Theoretical knowledge of surgical diseases of the liver and bile tree, tumours of the liver and bile tree, differential diagnosis of these diseases. Benign and malignant surgical diseases of the small intestine, colon and rectum. Surgical diseases of the thyroid gland and parathyroid glands. Cancers of the breast, adrenal glands. Surgical diseases in childhood, including birth defects, their diagnosis and treatment. Surgical diseases of the lungs, bronchi and mediastinum. Theoretical knowledge of heart and large vessels surgery, organ transplantations. <b>Skills:</b> In the treatment of organ diseases of surgical origin, take an indicative point and assistance in these surgical procedures. Laparoscopic simulator. Diagnostic procedures and laparoscopic skill on the trainer. Simulation workplace.	
<b>Class syllabus:</b> Surgical disease of the liver and bile tree. Liver and biliary tract tumours. Pancreatic tumours. Small bowel, large bowel and rectal surgical diseases. Colorectal cancer. Surgical diseases of the thyroid gland and parathyroid glands. Bronchial and lung surgical diseases. Mediastinal diseases. Congenital diseases in childhood. Surgical diseases in childhood. Cardiac and intrathoracic large vessel surgery. Organ transplantation. Urgent surgical procedures.	
<b>Recommended literature:</b>	

Breza, J a kol.: Princípy chirurgie, Slovak Academic Press, 2016, 4.diel série  
 Cameron, J.: Current Surgical Therapy. 8th ed. London: Churchill Livingstone, 2004,  
 Coran G. Arnold at all.: Pediatric Surgery, Vol. 1, 2, Elsevier 2012,  
 Černý, J. (ed.): Chirurgia tráviacej rúry. 4 zv. Martin: Osveta, 1988  
 Černý, J. (ed.): Špeciálna chirurgia 2. Chirurgia brušných orgánov a retroperitonea, Martin: Osveta, 1992  
 Černý, J. (ed.): Špeciálna chirurgia. 4 zv. Martin: Osveta, 1988-1995.  
 Durdík, Š.: Vybrané kapitoly z onkologickej chirurgie. Bratislava: WillArt, 2009, 304s.  
 Ferko, A., Vobořil, Z. (ed.): Chirurgie v kostce. Praha: Grada, 2002. 596 s.  
 Haruřtiak, S. a kol.: Princípy chirurgie, Slovak Academic Press, 2010, 2.diel série  
 Huťan M. a kol.: Základy všeobecnej a špeciálnej chirurgie. Bratislava UK2012 (198 s.)  
 Kauřitř, J. a kol.: Onkológia. VEDA, 663 s.  
 Kauřitř, J. a kol.: Špeciálna onkológia. Solen, 2020 692 s.  
 Kirk, R.M.: General Surgical Operations. 5th ed. London: Churchill Livingstone, 2006  
 Marek, V., Durdík, Š.: Akútna apendicitída – Včasná diagnostika a predoperačná rozvaha, 2021, 120s.  
 Olejník, J. (ed.): Perioperačný manuál chirurga. Bratislava: Ebner, 2002, 388 s.  
 Olejník, J. (ed.): Akútna pankreatitída. Bratislava: Ebner, 2002, 68 s.  
 Pechan, J.: Princípy chirurgie, PRIMA –PRINT, 2013, 3.diel série  
 Pokorný V. a kol.: Traumatológia. 1.vyd. 2012 Praha Triton (307 st.)  
 Sabiston Textbook of Surgery 20th Edition, Elsevier 2016  
 Šiman, J. a kol.: Princípy chirurgie, Slovak Academic Press, 2007, 1.diel série  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série A  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série B  
 Škultěty, J. : Špeciálna chirurgia I., Univerzita Komenského v Bratislave, 2014  
 Štencl, J., Holěczy, P.: Základné laparoskopické operácie v chirurgii. Martin: Osveta, 2001. 131 s.  
 Vidiřčák, M. a kol.: Novorodenecká chirurgia I, M-Servis 2008  
 Vrtík, L. a kol.: Základy chirurgie, Univerzita Komenského v Bratislave, 2019  
 Way, L.W. (ed.): Současná chirurgická diagnostika a léčba. Praha: Grada, 2000, 1660 s.  
 Zacharias Zachariou: Pediatric Surgery Digest, Springer 2009  
 Zeman M., Krřka Z. a kolektív: Chirurgická propedeutika tretie doplnené a prepracované vydanie 2013, Praha Grada 2013 (512 strán)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 528

A	B	C	D	E	FX
42,8	18,75	14,2	8,71	14,58	0,95

**Lecturers:** prof. MUDr. Peter Labař, CSc., doc. MUDr. Milan Schnorrer, CSc., doc. MUDr. Marián Vician, CSc., MUDr. Boris Hrbatý, PhD., MUDr. Richard Reis, PhD., MUDr. Milan Oravský, PhD., prof. MUDr. Štefan Durdík, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.OTK1/L-S-VLa-023/20	<b>Course title:</b> Surgery 3
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 9.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ChK1/L-S-VLa-022/19 - Surgery 2 and LF.NK1/L-S-VLa-047/19 - Neurology 1	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: 3 question (general examination, special systems, laboratory test) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> After completing the course, the student will gain theoretical knowledge of pathophysiology, diagnosis and treatment of diseases and injuries in orthopedics-traumatology, pediatric surgery and plastic surgery. He will be acquainted with the procedures of surgical procedures in orthopedics-traumatology, pediatric surgery and plastic surgery and with the principles of alternative treatment methods, the basics of assessment and incapacity for work. <b>Skills:</b> He will master the indication criteria for acute surgical diseases and injuries of the brain, spine, spinal cord and peripheral nerves, he will gain practical experience as an assistant in lumbar puncture, he will master the principle of craniotomy, decompression. He will gain skill in catheterization, a permanent catheter in men and women, he will master the indications and basics of epicystostomy and intravenous urography. Diagnostic procedures and laparoscopic skill on the trainer. Simulation workplace.	
<b>Class syllabus:</b> Classification of tumors of the nervous system. Neuroradiodiagnostics of brain tumors (magnetic resonance imaging, extended magnetic resonance imaging, functional magnetic resonance imaging, MR tractography - diffusion tensor imaging, positron emission tomography). Surgical and adjuvant treatment of brain tumors. Open and closed head injuries. Skull base injuries. Posttraumatic intracranial hemorrhage, pathophysiology, clinical manifestations and diagnostics. Indications	

and technique of surgical procedures for craniocerebral injuries. Pathophysiology, clinical manifestations, diagnosis and treatment of injuries of the spine, spinal cord and spinal nerves. Vascular diseases of the brain, pathophysiology, diagnostics and principles of treatment (cerebral artery aneurysms, arteriovenous malformations of the brain, cavernous malformations. Principles of microsurgical, endovascular and radiosurgical treatment). Diagnosis and treatment of degenerative diseases of the cervical and lumbosacral spine. Surgical treatment of congenital diseases of the nervous system, skull and spine. Hydrocephalus, pathophysiology, clinical manifestations and surgical treatment. Inflammatory diseases in neurosurgery. Characteristics of stereotactic surgical technique, and functional stereotaxy (biopsy, abscess evacuation), functional neurosurgery (surgical treatment of pain, movement disorders and epilepsy). Oncology, prostate diseases, male infertility, erectile dysfunction, acute and chronic renal insufficiency, urolithiasis, acute conditions in urology.

### **Recommended literature:**

Recommended literature:

Breza a spol.: Všeobecná a špeciálna urológia II. vydanie, Bratislava UK 2010

Breza, J a kol.: Princípy chirurgie, Slovak Academic Press, 2016, 4.diel série

Cameron, J.: Current Surgical Therapy. 8th ed. London: Churchill Livingstone, 2004,

Coran G. Arnold at all.: Pediatric Surgery, Vol. 1, 2, Elsevier 2012,

Černý, J. (ed.): Chirurgia tráviacej rúry. 4 zv. Martin: Osveta, 1988

Černý, J. (ed.): Špeciálna chirurgia 2. Chirurgia brušných orgánov a retroperitonea, Martin: Osveta, 1992

Černý, J. (ed.): Špeciálna chirurgia. 4 zv. Martin: Osveta, 1988-1995.

Durdík, Š.: Vybrané kapitoly z onkologickej chirurgie. Bratislava: WillArt, 2009, 304s.

Ferko, A., Vobořil, Z. (ed.): Chirurgie v kostce. Praha: Grada, 2002. 596 s.

Huťan M. a kol.: Základy všeobecnej a špeciálnej chirurgie. Bratislava UK2012 (198 s.)

Kaušitz, J. a kol.: Onkológia. VEDA, 663 s.

Kaušitz, J. a kol.: Špeciálna onkológia. Solen, 2020 692 s.

Kirk, R.M.: General Surgical Operations. 5th ed. London: Churchill Livingstone, 2006

Marek, V., Durdík, Š.: Akútna apendicitída – Včasná diagnostika a predoperačná rozvaha, 2021, 120s.

Olejník, J. (ed.): Perioperačný manuál chirurga. Bratislava: Ebner, 2002, 388 s.

Olejník, J. (ed.): Akútna pankreatitída. Bratislava: Ebner, 2002, 68 s.

Pechan, J.: Princípy chirurgie, PRIMA –PRINT, 2013, 3.diel série

Pokorný V. a kol.: Traumatológia. 1.vyd. 2012 Praha Triton (307 st.)

Sabiston Textbook of Surgery 20th Edition, Elsevier 2016

Šiman, J. a kol.: Princípy chirurgie, Slovak Academic Press, 2007, 1.diel série

Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série A

Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série B

Škultéty, J. : Špeciálna chirurgia I., Univerzita Komenského v Bratislave, 2014

Štencl, J., Holéczy, P.: Základné laparoskopické operácie v chirurgii. Martin: Osveta, 2001. 131 s.

Šteňo J.: Neurochirurgia, s. 3-40. In: Ohrádka B. a kol.: Špeciálna chirurgia I. , 2. preprac. vyd. Bratislava: Univerzita Komenského, 2001, 201 s. ISBN 80-223-1620-2.

Šteňo J.: Neurochirurgia, s. 5-298 In: Haruštiak S., ed. Princípy chirurgie II. Bratislava: SAP, 2010, 848 s. ISBN 978-80-8095-053-8

Vidiščák, M. a kol.: Novorodenecká chirurgia I, M-Servis 2008

Vrtík, L. a kol.: Základy chirurgie, Univerzita Komenského v Bratislave, 2019

Way, L.W. (ed.): Současná chirurgická diagnostika a léčba. Praha: Grada, 2000, 1660 s.

Zacharias Zachariou: Pediatric Surgery Digest, Springer 2009

Zeman M., Krška Z. a kolektív: Chirurgická propedeutika tretie doplnené a prepracované vydanie 2013, Praha Grada 2013 (512 strán)

<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 538					
A	B	C	D	E	FX
77,7	22,3	0,0	0,0	0,0	0,0
<b>Lecturers:</b> prof. MUDr. Juraj Šteňo, DrSc., Dr.h.c. prof. MUDr. Ján Breza, DrSc., prof. MUDr. Viktor Matejčík, CSc., doc. MUDr. Ing. Ján Breza, PhD., doc. MUDr. Andrej Šteňo, PhD., MPH, MUDr. Martin Novotný, PhD., MUDr. Andrej Švec, PhD., prof. MUDr. Štefan Durdík, PhD.					
<b>Last change:</b> 28.11.2022					
<b>Approved by:</b>					

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.OK/L-S-VLa-096/22	<b>Course title:</b> Surgery 4
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 29s / 25s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.OTK1/L-S-VLa-023/20 - Surgery 3	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: 3 question (general examination, special systems, laboratory test) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Basics of plastic surgery and hand surgery. Surgical diseases in childhood. Basic theoretical information about diseases of the musculoskeletal system, orthopedic treatment of congenital and acquired diseases, management of trauma patients in its entirety, basics of systemic and inflammatory diseases of the skeleton in children and adults. <b>Skills:</b> Mastering the examination and medical record of the patient in orthopedics, traumatology and plastic surgery. Mastering the examination of pediatric, orthopedic and trauma patients. Gaining skills in the evaluation of native X-ray and USG examination as well as interpretation of the results of gamma, CT, MRI, PET examinations. Practical mastery of knee joint puncture and control of ankle, shoulder and lumbar joint puncture procedures. Oncoorthopedics, mastering diagnostic procedures in the examination of patients (staging and grading of tumors). Coping with patch and transskeletal extension. Mastering diagnostic procedures in the examination of traumatic and osteoporotic patients. Obtaining procedures for reduction of dislocation of the shoulder, ankle, knee and elbow. Mastering the algorithm of examinations in inflammatory diseases of the skeleton. Diagnostic procedures and laparoscopic skill on the trainer. Simulation workplace.	
<b>Class syllabus:</b> Basics of plastic and reconstructive surgery and hand surgery. Fractures and dislocations of the upper limb, spinal injuries, pelvic fractures, fractures and dislocations of the lower limb, polytraumas, injuries of tendons, blood vessels and nerves of the hand, surgical treatment of	

lossal injuries, treatment of burns, skin transplants and lobes, patient principles of orthopedic treatment. Musculoskeletal traumatology, rehabilitation. Systemic skeletal diseases and vascular necrosis, bone tumors and tumors of the soft parts of the limbs and spine. Orthopedic problems with muscle diseases, arthropathy, inflammatory, bone and joint diseases. Degenerative diseases, pediatric orthopedics. Congenital abdominal events, thoracic and vascular surgery in childhood, hepatoportal surgery in childhood, scoliosis, disease pertes, dressing technique in traumatology and plastic surgery.

**Recommended literature:**

Pokorný V. a kol.: Traumatológia 1. vydanie, 2012, Praha Triton 307 s.  
Vojtaššák J., Traumatológia, Bratislava SAP, 2004, 364 s.  
Sukop A. a kol.: Akútní poranení ruky. Praha, Galén 2013 192 s.  
Veselý J. a kol.: Plastická chirurgia pro lékařské fakulty a postgraduální výchovu. LF MU Brno, 2007, 136 s.  
Grabb and Smiths: Plastic Surgery, 7th edition, Lippincott Williams Wilkins, 2013, 976 s.  
Šnajdant J., Škába R. a kol.: Dětská chirurgie, Galen, Praha 2005  
Havránek P. a kol.: Dětské zlomeniny, Galen, Praha 2010  
Rovenský, J. a kol. Reumatológia v teórii a praxi. VI. Martin: Osveta, 2004. 1124 s. ISBN 80-8063-163-8  
Makai, F., Kokavec, M. Historický pohľad na vznik a rozvoj ortopédie a traumatológie. Bratislava: Herba,s.r.o., 2004. 108 s.  
Dungl, P. a kol. Ortopedie. Praha: Grada, 2005. 1273 s. ISBN 80-247-050-8  
Rudinsky, B. Spinálna chirurgia, SAP Bratislava 2006, 313 strán, ISBN 80-89104-76-2  
Rehák L. Spondylochirurgia, Bratislava 2007. In Šiman J. a kol. Princípy chirurgie  
Kokavec, M. a kol.: Vybrané kapitoly z detskej ortopédie časť I. a II., SZU 2003  
Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série B  
Zacharias Zachariou: Pediatric Surgery Digest, Springer 2009

**Languages necessary to complete the course:**

english

**Notes:****Past grade distribution**

Total number of evaluated students: 124

A	B	C	D	E	FX
65,32	19,35	8,06	4,03	2,42	0,81

**Lecturers:** prof. MUDr. Milan Kokavec, PhD., MPH, doc. MUDr. Jozef Babala, PhD., doc. MUDr. Jozef Fedeleš, CSc., doc. MUDr. Boris Šteňo, PhD., doc. MUDr. Ján Trnka, CSc., MUDr. Drahomír Palenčár, PhD., MUDr. Ján Paukovic, CSc., MUDr. Andrey Švec, PhD., prof. MUDr. Štefan Durdík, PhD., doc. MUDr. Martin Sabol, PhD., Dr.h.c. prof. MUDr. Ján Breza, DrSc., doc. MUDr. Andrej Šteňo, PhD., MPH, prof. MUDr. Peter Labaš, CSc., doc. MUDr. Ľudovít Danihel, PhD.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.OTK1/L-S-VLa-025/19	<b>Course title:</b> Surgery 5
<b>Educational activities:</b> <b>Type of activities:</b> seminar / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 48s / 240s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 13	
<b>Recommended semester:</b> 11., 12..	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.OK/L-S-VLa-096/22 - Surgery 4	
<b>Course requirements:</b> One-hundred percent participation in internships and seminars. Practical exam (examination of a surgical patient, processing of a medical record, 2 questions from surgery). Final test in surgical disciplines. State exam - 3 theoretical questions.	
<b>Learning outcomes:</b> Knowledge: Comprehensive theoretical knowledge of surgical disciplines, mastering the differential diagnosis of surgical diseases. Skills: Comprehensive examination of the patient with differential diagnostics and patient treatment proposal. Ability to perform minor surgery and the ability to assist in surgical procedures. Master the indication criteria for surgical diseases. Diagnostic procedures and laparoscopic skill on the trainer. Simulation workplace.	
<b>Class syllabus:</b> As part of block teaching, work in departments, outpatient clinics and operating theaters of individual surgical clinics in the classification as a junior secondary doctor, participation in visits and seminars of clinics, assistance in operations, performing minor diagnostic and therapeutic procedures. The seminars will be devoted to the following topics: Organ transplants. Extensive liver resections. Intensive treatment in surgery. Surgical diseases of the esophagus, stomach, duodenum, small intestine, colon and rectum. Lung and mediastinal surgical diseases. Chest injuries. Surgical diseases and injuries in childhood. Comprehensive care for burns. Plastic surgery consultations. Ileus and peritonitis. Orthopedics consultations. Current trends in oncosurgery. Surgery of the liver, bile ducts and pancreas. Conservative and surgical treatment of fractures. Neurosurgery consultations. Urology consultations. Vascular surgery consultations. Shock, splitting and treatment. Circulatory and respiratory resuscitation. Principles of treatment of water and electrolyte turnover and acid-base balance in surgery.	
<b>Recommended literature:</b> Breza a spol.: Všeobecná a špeciálna urológia II. vydanie, Bratislava UK 2010 Breza, J a kol.: Princípy chirurgie, Slovak Academic Press, 2016, 4.diel série	

Cameron, J.: Current Surgical Therapy. 8th ed. London: Churchill Livingstone, 2004,  
 Coran G. Arnold at all.: Pediatric Surgery, Vol. 1, 2, Elsevier 2012,  
 Černý, J. (ed.): Chirurgia tráviacej rúry. 4 zv. Martin: Osveta, 1988  
 Černý, J. (ed.): Špeciálna chirurgia 2. Chirurgia brušných orgánov a retroperitonea, Martin: Osveta, 1992  
 Černý, J. (ed.): Špeciálna chirurgia. 4 zv. Martin: Osveta, 1988-1995.  
 Durdík, Š.: Vybrané kapitoly z onkologickej chirurgie. Bratislava: WillArt, 2009, 304s.  
 Ferko, A., Vobořil, Z. (ed.): Chirurgie v kostce. Praha: Grada, 2002. 596 s.  
 Huťan M. a kol.: Základy všeobecnej a špeciálnej chirurgie. Bratislava UK2012 (198 s.)  
 Kaušitz, J. a kol.: Onkológia. VEDA, 663 s.  
 Kaušitz, J. a kol.: Špeciálna onkológia. Solen, 2020 692 s.  
 Kirk, R.M.: General Surgical Operations. 5th ed. London: Churchill Livingstone, 2006  
 Marek, V., Durdík, Š.: Akútna apendicitída – Včasná diagnostika a predoperačná rozvaha, 2021, 120s.  
 Olejník, J. (ed.): Perioperačný manuál chirurga. Bratislava: Ebner, 2002, 388 s.  
 Olejník, J. (ed.): Akútna pankreatitída. Bratislava: Ebner, 2002, 68 s.  
 Pechan, J.: Princípy chirurgie, PRIMA –PRINT, 2013, 3.diel série  
 Pokorný V. a kol.: Traumatológia. 1.vyd. 2012 Praha Triton (307 st.)  
 Sabiston Textbook of Surgery 20th Edition, Elsevier 2016  
 Šiman, J. a kol.: Princípy chirurgie, Slovak Academic Press, 2007, 1.diel série  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série A  
 Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série B  
 Škultéty, J. : Špeciálna chirurgia I., Univerzita Komenského v Bratislave, 2014  
 Štencl, J., Holéczy, P.: Základné laparoskopické operácie v chirurgii. Martin: Osveta, 2001. 131 s.  
 Šteňo J.: Neurochirurgia, s. 3-40. In: Ohrádka B. a kol.: Špeciálna chirurgia I. , 2. preprac. vyd. Bratislava: Univerzita Komenského, 2001, 201 s. ISBN 80-223-1620-2.  
 Šteňo J.: Neurochirurgia, s. 5-298 In: Haruštiak S., ed. Princípy chirurgie II. Bratislava: SAP, 2010, 848 s. ISBN 978-80-8095-053-8  
 Vidiščák, M. a kol.: Novorodenecká chirurgia I, M-Servis 2008  
 Vrtík, L. a kol.: Základy chirurgie, Univerzita Komenského v Bratislave, 2019  
 Way, L.W. (ed.): Současná chirurgická diagnostika a léčba. Praha: Grada, 2000, 1660 s.  
 Zacharias Zachariou: Pediatric Surgery Digest, Springer 2009  
 Zeman M., Krška Z. a kolektív: Chirurgická propedeutika tretie doplnené a prepracované vydanie 2013, Praha Grada 2013 (512 strán)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 520

A	B	C	D	E	FX
78,65	13,46	6,35	1,54	0,0	0,0

**Lecturers:** prof. MUDr. Peter Labaš, CSc., prof. MUDr. Juraj Šteňo, DrSc., Dr.h.c. prof. MUDr. Ján Breza, DrSc., doc. MUDr. Milan Schnorrer, CSc., doc. MUDr. Andrej Šteňo, PhD., MPH, doc. MUDr. Marián Vician, CSc., MUDr. Pavol Mazalán, MUDr. Milan Oravský, PhD., MUDr. Katarína Szabómihályová, MUDr. Ivan Majeský, PhD., doc. MUDr. Peter Bukovčan, PhD., MUDr.

Martin Novotný, PhD., MUDr. Andrey Švec, PhD., MUDr. Martin Dubovský, PhD., MUDr. Boris Hrbatý, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.ChK1/L-S-VLa-026/18	<b>Course title:</b> Surgical Propedeutics
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 30s / 40s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 4	
<b>Recommended semester:</b> 6.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LFAÚ/L-S-VLa-003/17 - Anatomy 3	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: patient examination and writing medical report - theoretical exam: 3 question (general examination, special systems, laboratory test) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Knowledge:</b> Theoretically master the examination of the surgical patient, master the principles of preoperative preparation and postoperative care of the surgical patient. To control the internal environment, metabolism, principles of parenteral and enteral nutrition of the operated patient. Know infusion solutions, replacement solutions, blood derivatives. Theoretically manage infection in surgery, incidence, causes and basics of treatment. Master the indications of examination methods (instrumental, USG, X-ray, CT, MRI) in vascular surgery, urology, traumatology, pediatric surgery, thoracic surgery, neurotraumatology. Theoretically control shock, hypovolemic, traumatic, septic, burn. To control the division of wounds, the division of fractures, injuries of blood vessels, nerves, injuries of the intra-abdominal, thoracic, retroperitoneal organs, injuries of the skull. Master the basics of transplant surgery, know the differences in the diagnosis and treatment of children and adults. <b>Skills:</b> Examine the surgical patient, determine the diagnosis with the help of examination methods and clinical examination. Prescribe parenteral and enteral nutrition. Give transfusions and blood derivatives, handle small surgical procedures - wound suturing, incision of abscesses, phlegmon, removal of skin lesions. Treat minor traumas - dressing, plastering, splints, orthoses. Master venepuncture and tracheostomy, chest puncture, joint puncture. Manage shock design measures and treatment of shock. Examination of the surgical patient and mastering the diagnostics in surgery.	

Basics of trauma surgery. Diagnostic procedures and laparoscopic skill on the trainer. Simulation workplace

**Class syllabus:**

Examination of the surgical patient and preparation for surgery. Surgical procedure, technique, indications, urgent procedures in surgery, asepsis and antisepsis, sterilization. Preoperative and postoperative care of the surgical patient. Surgical infections, anaerobic and specific infections, panaritium, nosocomial infections. Antibiotic therapy in surgery. Disruption of the internal environment, parenteral and enteral nutrition, alternative solutions, transfusions. Wound division and treatment. Fracture distribution. Bone injuries, distortions, dislocations, muscle and tendon injuries. Examination methods in vascular surgery and peripheral vascular injuries. Amputations. Injuries to the abdomen and intra-abdominal organs. Examination methods in urology and urinary tract injuries. Preoperative and postoperative care for children. The difference between injuries in children and adults, biological differences, treatment procedures. Bleeding in surgery, examination methods in bleeding, hypovolemic shock, septic shock. Heat injuries, electric burns, frostbite, sunburn, sunburn. Chest injuries, spinal cord and peripheral nerve injuries, head injuries. Basics of transplant surgery.

**Recommended literature:**

Breza, J a kol.: Princípy chirurgie, Slovak Academic Press, 2016, 4.diel série  
Cameron, J.: Current Surgical Therapy. 8th ed. London: Churchill Livingstone, 2004,  
Coran G. Arnold at all.: Pediatric Surgery, Vol. 1, 2, Elsevier 2012,  
Černý, J. (ed.): Chirurgia tráviacej rúry. 4 zv. Martin: Osveta, 1988  
Černý, J. (ed.): Špeciálna chirurgia 2. Chirurgia brušných orgánov a retroperitonea, Martin: Osveta, 1992  
Černý, J. (ed.): Špeciálna chirurgia. 4 zv. Martin: Osveta, 1988-1995.  
Durdík, Š.: Vybrané kapitoly z onkologickej chirurgie. Bratislava: WillArt, 2009, 304s.  
Ferko, A., Vobořil, Z. (ed.): Chirurgie v kostce. Praha: Grada, 2002. 596 s.  
Haruštiak, S. a kol.: Princípy chirurgie, Slovak Academic Press, 2010, 2.diel série  
Huťan M. a kol.: Základy všeobecnej a špeciálnej chirurgie. Bratislava UK2012 (198 s.)  
Kaušitz, J. a kol.: Onkológia. VEDA, 663 s.  
Kaušitz, J. a kol.: Špeciálna onkológia. Solen, 2020 692 s.  
Kirk, R.M.: General Surgical Operations. 5th ed. London: Churchill Livingstone, 2006  
Marek, V., Durdík, Š.: Akútna apendicitída – Včasná diagnostika a predoperačná rozvaha, 2021, 120s.  
Olejník, J. (ed.): Perioperačný manuál chirurga. Bratislava: Ebner, 2002, 388 s.  
Olejník, J. (ed.): Akútna pankreatitída. Bratislava: Ebner, 2002, 68 s.  
Pechan, J.: Princípy chirurgie, PRIMA –PRINT, 2013, 3.diel série  
Pokorný V. a kol.: Traumatológia. 1.vyd. 2012 Praha Triton (307 st.)  
Sabiston Textbook of Surgery 20th Edition, Elsevier 2016  
Siman, J. a kol.: Princípy chirurgie, Slovak Academic Press, 2007, 1.diel série  
Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série A  
Šimko, P. a kol.: Princípy chirurgie, PRIMA –PRINT, 2019, 5.diel série B  
Škultéty, J. : Špeciálna chirurgia I., Univerzita Komenského v Bratislave, 2014  
Štencl, J., Holéczy, P.: Základné laparoskopické operácie v chirurgii. Martin: Osveta, 2001. 131 s.  
Vidiščák, M. a kol.: Novorodenecká chirurgia I, M-Servis 2008  
Vrtík, L. a kol.: Základy chirurgie, Univerzita Komenského v Bratislave, 2019  
Way, L.W. (ed.): Současná chirurgická diagnostika a léčba. Praha: Grada, 2000, 1660 s.  
Zacharias Zachariou: Pediatric Surgery Digest, Springer 2009

Zeman M., Krška Z. a kolektív: Chirurgická propedeutika tretie doplnené a prepracované vydanie 2013, Praha Grada 2013 (512 strán)

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 688

A	B	C	D	E	FX
70,49	20,06	6,1	2,33	0,73	0,29

**Lecturers:** prof. MUDr. Peter Labaš, CSc., doc. MUDr. Marek Čambal, PhD., doc. MUDr. Milan Schnorrer, CSc., doc. MUDr. Marián Vician, CSc., MUDr. Boris Hrbatý, PhD., MUDr. Richard Reis, PhD., prof. MUDr. Štefan Durdík, PhD., doc. MUDr. Martin Sabol, PhD., doc. MUDr. Jozef Babala, PhD., doc. MUDr. Ľudovít Danihel, PhD.

**Last change:** 29.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KAIM2/L-S-VLa-177/22	<b>Course title:</b> Topics from Resuscitation
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at the practicals - 1 written test (minimum 60% of correct answers) <b>Final exam:</b> - practical exam: Basic and Immediate Life Support with AED – teamwork. - theoretical exam: test and essay on a selected topic in resuscitation (LMS Moodle). <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained	
<b>Learning outcomes:</b> <b>Knowledge:</b> Upon successful completion of the educational program, the student will gain knowledge and understand it in accordance with the global learning objectives of the course. Basic knowledge (applied physiology) for the treatment of patients with cardiac arrest (CA) - basic and advanced life support, basic principles of post-resuscitation care. CA in a medical facility – specific issues of resuscitation. Prevention of CA - identification and treatment of deteriorating patient condition (early warning system , MET – medical emergency teams), + ABCDE procedure. Technical and non-technical skills in cardiopulmonary resuscitation (CPR) - CPR effectiveness parameters, heart rhythms in CPR, defibrillation (automated external defibrillation - AED, manual defibrillation), CPR algorithms, principles of teamwork and interpersonal communication. <b>Skills:</b> Upon successful completion of this course, students will be able to solve: Early detection of CA risk, early recognition of cardiac arrest, aid activation, early CPR (Airway and ventilation, airway patency management, high quality CPR), early defibrillation, Using AED tips and tgrticks, i.v., i.o. Access, management of CPR pharmacotherapy, teamwork management. Ethical issues of CPR (do not resuscitate – DNR).	
<b>Class syllabus:</b> 1. Cardiac arrest (CA) - ethiology, pathophysiological aspects, recognition, differ. diagnosis	

2. CA in the context of health care - (CA outside the health facility, in the health facility , Basic, Immediate and Advanced life support, Chain of survival).
3. Technical and non-technical skills and quality of resuscitation.
4. Diagnosis of deteriorating patient condition and prevention of CA.
5. Acute coronary syndrome - initial management.
6. Acute stroke syndrome – initial management
7. Emergencies – tension pneumothorax, embolia art. Pulmonalis,
8. Resuscitation in the hospital, ambulance.
9. Heart rhythms in cardiac arrest.
10. Defibrillation. AED , manual defibrillator
11. Airway patency management, high quality CPR.
12. Advance Life Support (ALS) algorithms.
13. Post-resuscitation care.

**Recommended literature:**

Resuscitation (2021) 1–80: European Resuscitation Council Guidelines for Resuscitation 2021. (www.erc.edu).

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 11

A	B	C	D	E	FX
45,45	45,45	9,09	0,0	0,0	0,0

**Lecturers:** doc. MUDr. Roman Záhorec, CSc.

**Last change:** 01.12.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.MÚ/L-S-VLa-157-5/19	<b>Course title:</b> Tropical Parasitology
<b>Educational activities:</b> <b>Type of activities:</b> lecture <b>Number of hours:</b> <b>per week: per level/semester:</b> 24s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> - 100% attendance at lectures and practicals - written test (minimum 60% of correct answers) <b>Final exam:</b> - theoretical exam: 3 question (general parasitology, protozoa, helminthology) <b>Test evaluation:</b> A: 91 - 100 %, B: 81 – 90 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % - 0%. The overall rating is determined from the average of the ratings obtained.	
<b>Learning outcomes:</b> <b>Learning outcomes:</b> - General characteristics of human parasites - epidemiology and geografic distribution of human parasites - treatment of parasitic diseases - diagnosis and diagnostics of causing agents of tropical parasitic diseases - prevention <b>Knowledge:</b> During active participation the course lectures, student will acquire knowledge on tropical parasitology i.e. morphology, geographical distribution, epidemiology, pathogenesis, pathology, treatment, diagnosis, diagnostics and prevention of tropical parasitic infections, including ectoparasites as vectors of viruses, bacteria, viruses and helminths. <b>Skills:</b> Students orientates to geaographical distribution of tropical diseases, can promptly express and respond to imported diseases, the treatment and prevention. After the attendance of a 4-hour compulsory exercise, they will learn the basics of laboratory diagnostics of tropical parasitic infections, i.e. knowledge of parasite morphology, use of rapid diagnostic methods, serological methods and their interpretation.	
<b>Class syllabus:</b> Introduction to tropical parasitology. Host – parasite interaction, adaptation to parasitic way of life. Biological cycle, clinical symptoms, laboratory diagnostics, epidemiology, treatment, prevention and control. Intestinal tropical protozoal infections. Tropical blood and tissue protozoan infections.	

Tropical intestinal helminthiasis. Tropical blood and tissue helminthiasis. Parasitic arthropods. Antiparasitics used in the treatment of tropical parasites. Possibilities of diagnostics of tropical parasitic infections.

**Recommended literature:**

xMurray,P.R. et al.: Medical Microbiology. 8th ed. Philadelphia: Elsevier, 2016. 848 pp.  
BEECHING. N. and GILL, G. Tropical Medicine. 7th ed. Wiley-Blackwell, 2014. 408 p. ISBN: 978-0-470-65853-6 (selected chapters).  
Jeremy Farrar et al. Manson's Tropical Diseases; 23rd Edition. Saunders Ltd. 2014. 1360pp. ISBN 9780702051012, eBook 9780702057700 (selected chapters)  
GOERING R. et al: Mims' Medical Microbiology and Immunology. 6th ed. Elsevier, 2018. 568 p. ISBN-10: 0702071544, ISBN-13: 978-0702071546 (selected chapters)  
x Jalili N. Parasitology. In: LIPTÁKOVÁ, A., et. al. Microbiological Diagnostics for Students of Medicine. 1st ed. Bratislava: Comenius University, 2018. 246 s. Textbook. ISBN 978-80-223-4287-2.  
Sastry Apraba S. Essentials of Medical Parasitology. Jp Medical Ltd. 2018. 357pp. ISBN13 (EAN): 9789352704804

**Languages necessary to complete the course:**

english

**Notes:**

**Past grade distribution**

Total number of evaluated students: 3

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** doc. RNDr. Nasir Ahmad Jalili, CSc., MPH, RNDr. Martina Dubinová, PhD.

**Last change:** 30.11.2022

**Approved by:**

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Medicine	
<b>Course ID:</b> LF.KUVM/L-S-VLa-067/20	<b>Course title:</b> Urgent Medicine
<b>Educational activities:</b> <b>Type of activities:</b> lecture / practicals <b>Number of hours:</b> <b>per week: per level/semester:</b> 12s / 12s <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 2	
<b>Recommended semester:</b> 10.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b> LF.ÚFKF/L-S-VLa-012/19 - Pharmacology 2	
<b>Course requirements:</b> 100% participation Practical extended CPR Written exam – test with minimum achievement of 60% Test evaluation: A: 91 - 100 %, B: 81 – 99 %, C: 73 – 80 %, D: 66 – 72 %, E: 60 – 65 %, Fx: 59 % and less Final evaluation will be calculated as the average of achieved partial evaluations.	
<b>Learning outcomes:</b> <b>KNOWLEDGE:</b> Urgent medicine shall provide teoretical information on providing health care in life threatening situations in pre-hospital, as well as hospital stage of rescue chain. To define the medicine of disasters, mass accidents, special events. <b>SKILLS:</b> To handle advanced life support, securing access to airways via intubation, laryngeal mask, laryngeal tubus. To handle intraoseal access to blood circulation, fractures stabilization, stopping a massive bleeding. Using of protective equipment against military attacks.	
<b>Class syllabus:</b> Diagnostics and diferencial diagnostics of the most serious conditions in pre-hospital care, treatment of serious injuries and transport management. Organization and practical realization of profesional health care activities within urgent medicine and medicine of disasters. Integrated rescue system. Possible types of injuries and diseases in case of disasters and mass accidents. Military medicine – health care organization during war and health care system in case of usage of weapons of mass destruction.	
<b>Recommended literature:</b> Wyatt, J., Illingworth, Graham, c., Hogg, K. : Oxforf Handbook of Emergency Medicine, Oxford University Press, 2015 European Resuscitation Council Guidelines 2021 Richard, A.,Hulsewef, b., Niemeyer, B., Sabath, F.: CBRN protection. Willey 2012	

<b>Languages necessary to complete the course:</b> english					
<b>Notes:</b>					
<b>Past grade distribution</b> Total number of evaluated students: 473					
A	B	C	D	E	FX
1,27	7,61	23,89	39,53	25,58	2,11
<b>Lecturers:</b> prof. MUDr. Oto Masár, CSc., PhDr. Hana Belejová, PhD., PhDr. Dušan Sysel, PhD., MUDr. Teodor Bachleda, PhD., MBA					
<b>Last change:</b> 30.11.2022					
<b>Approved by:</b>					