

**DESCRIPTION OF COURSE UNIT FOR DOCTORAL STUDIES  
AT VILNIUS UNIVERSITY**

<b>Scientific Area/eas, Field/ds of Science</b>	Medical and Health Sciences (M 000): Medicine (M 001)			
<b>Faculty, Institute, Department/Clinic</b>	Medicine Faculty Institute of Clinical Medicine Clinic of Rheumatology, Orthopaedics Traumatology and Reconstructive Surgery			
<b>Course unit title</b> (ECTS credits, hours)	<b>Orthopaedic Diseases</b> 10 credits (270 hours)			
<b>Study method</b>	<b>Lectures</b>	<b>Seminars</b>	<b>Consultations</b>	<b>Self-study</b>
Number of ECTS credits	-	4	2	4
<b>Method of the assessment</b> (in 10 point system)	The exam is considered oral. 3 questions provided. The clinic has a block of questions that is updated every year. Exam evaluation criteria (minimum readable score - 5): (b) general structure and scope of the answer, clear presentation of the knowledge, reasoning, brevity and specificity (3 points); c) ability to participate in discussion, question management, oratory skills (5 points); d) problematic issues lifting (2 points).			
<b>PURPOSE OF THE COURSE UNIT</b>				
To provide in-depth knowledge of the aetiology, pathogenesis, genetic predisposition of orthopaedic diseases, modern testing methods, special tests, differential diagnosis, types of operations, planning of operations, preoperative evaluation, surgical techniques, error prevention and risks, early and remote postoperative period, possible surgery principles and possibilities of rehabilitation. Additional attention is paid to general orthopaedic skeletal diseases, joint treatment - replacement of joints with artificial implants - endoprostheses.				
<b>THE MAIN TOPICS OF COURSE UNIT</b>				
<p><u>General part.</u> Anamnestic, clinical, laboratory, radiological, ultrasound and instrumental examination methods. Assessment of the condition of segmental and peripheral nerves innervating limbs.</p> <p><u>Special orthopaedic interventions.</u> Redression, arthrodesis, tenodesis, arthrosis, osteotomy, osteoclasia, bone transplantation, cartilage transplantation, skin transplantation. Plastic joint operations. Classic joint plastic. Replacement of the joint with an artificial implant - endoprosthesis.</p> <p><u>Basics of orthopaedic techniques.</u> Orthopaedic appliances, prostheses, orthoses.</p> <p><u>Orthopaedic diseases.</u> Common orthopaedic skeletal disorders: osteomalacia, rickets, osteoporosis, primary hyperparathyroidism, secondary hyperparathyroidism, gastrointestinal osteopathy, diabetic bone lesions, deforming osteodystrophy. Congenital systemic skeletal disorders: osteochondrodysplasia, achondroplasia, osteogenesis imperfecta, fibrotic dysplasia and fibrotic dysplasia with skin pigmentation, multiple osteochondromas, diaphyseal dysplasia, metaphyseal chondrodysplasia, multiple epiphyseal dysplasia, congenital curvature, polydactylia, syndactylia, brachydactylia, congenital syntosis, Madelung 's deformity, mucopolysaccharidosis, Gaucher disease. Rheumatoid arthritis-induced joint changes. Ankylosing spondylitis and spondyloarthritis.</p>				

Degenerative joint disease. Aetiology, pathogenesis, osteoarthritis clinic, radiographic picture of osteoarthritis, basics of osteoarthritis treatment.

Aseptic osteonecrosis. Vertebra plana, Calvé, juvenile osteochondrosis of the spine, Perthes disease, adult femoral head necrosis, tuberositas tibiae osteonecrosis of the femur osteonecrosis, osteonecrosis of the feet of the metatarsals II -IV, os lunatum osteonecrosis, dissecting osteochondrosis.

Inflammatory diseases of the bones and joints. Acute haematogenic osteomyelitis, acute post-traumatic osteomyelitis, chronic osteomyelitis. Nonspecific arthritis. Specific inflammation of the bones and joints.

Oncological changes. Bone tumours. Benign bone tumours. Malignant bone tumours, bone metastases. Principles of treatment of malignant tumours. Tumour-like bone lesions. Tumours of the joints.

Soft tissue diseases. Diseases of the tendons, their coverings and muscles. Degenerative changes. Inflammation of tendon sheaths. Stenotic tendonitis. Muscle atrophy and hypertrophy. Muscle calcification. Congenital multiple arthrognosis.

Orthopaedic diseases of the joints. Diseases of the shoulder joint: narrowness of the subacromial space, sphincter rupture, arthropathy, idiopathic adhesive capsules, calcifying tendinitis, degenerative changes in the acromioclavicular joint, the glenohumeral joint, os acromiale, Bankart rupture. Shoulder joint clinical examination methods, special tests. Special joint examination. Elbow disease: tennis elbow, cubitus varus and cubitus valgus, elbow instability, sluggish cranial nerve palsy, cranial neuritis and cranial syndrome, olecranon bursitis, osteoarthritis of the elbow, dissecting osteochondritis, ossifying myositis. Clinical methods of examination of the elbow joint, special tests. Special joint examination. Wrist Diseases: Complications After Colles' Fracture, Wrist Ganglion, De Quervain disease, straight tendon tenosynovitis, Kienbock disease, wrist osteoarthritis, carpal tunnel syndrome, ulnar canal syndrome, Ehlers-Danlos syndrome, wrist instability. Wrist joint clinical examination methods and special tests. Hip Diseases: Congenital hip dysplasia in children and adults, femoral dislocation. Clinical symptoms of hip dysplasia. X-ray diagnostics. Conservative treatment of congenital hip dysplasia. Surgical methods of treatment of congenital hip dysplasia: upper extremity plastic surgery, pelvic osteotomy, intervertebral osteotomy. Perthes disease, acute pyogenic inflammation of the joint, primary and secondary osteoarthritis of the hip, its causes, coxa vara and coxa magna. Clinical hip examination methods, special tests. Digestive diagnosis of hip pain. Special examination of the joint - puncture of the hip joint and aspiration of the contents. Knee orthopaedic diseases: swelling and pain in the knee, haemarthrosis, joint instability, meniscus rupture, meniscus cyst, patellofemoral instability, patellar chondromalacia, dissecting osteochondritis, osteoarthritis of the knee, genu varum and genu valgum, patellar bursitis, common dislocation. Diseases of the ankle joint: achilles tendinopathy of the femur osteochondritis, cracked peroneal tendon, ankle osteoarthritis.

Orthopaedic diseases of the foot. Deformity of the foot equinovarus, sloping foot, flat foot, convex foot, Hallux valgus. Morton's neuroma, plantar fasciitis, hammer finger, tarsal tunnel syndrome. Foot clinical examination methods and special tests.

#### **RECOMMENDED LITERATURE SOURCES**

1. Frederick M. Azar, James H. Beaty. Campbell's Operative Orthopaedics : Volume one.

- Elsevier Health Sciences, 14th edition, 2020:  
<https://evolve.elsevier.com/cs/product/9780323672177?role=student>
2. Nicola Maffulli, John P Furia. Rotator Cuff Disorders : Basic Science and Clinical Medicine. JP Medical Ltd. \_ 2012:  
[http://www.lavoisier.eu/books/other/rotator-cuff-disorders/description\\_4287241](http://www.lavoisier.eu/books/other/rotator-cuff-disorders/description_4287241)
  3. Frederick M. Azar, James H. Beaty. Campbell's Operative Orthopaedics : Volume two. Elsevier Health Sciences, 14th edition, 2020:  
<https://evolve.elsevier.com/cs/product/9780323672177?role=student>
  4. Frederick M. Azar, James H. Beaty. Campbell's Operative Orthopaedics : Volume three. Elsevier Health Sciences, 14th edition, 2020:  
<https://evolve.elsevier.com/cs/product/9780323672177?role=student>
  5. Frederick M. Azar, James H. Beaty. Campbell's Operative Orthopaedics : Volume four. Elsevier Health Sciences, 14th edition, 2020:  
<https://evolve.elsevier.com/cs/product/9780323672177?role=student>
  6. Apurv Mehra. Orthopaedics Quick Review ( OPQR ). Jaypee Brothers Medical Pub ; 8th edition, 2020:  
[https://www.amazon.com/Orthopaedics-Quick-Review-MEHRA-APURV/dp/9389776767/ref=sr\\_1\\_1?crid=VK072DGXPFC5&keywords=Orthopaedics+quick+review+Apurv+Mehra&qid=1649776767&sr=1-1](https://www.amazon.com/Orthopaedics-Quick-Review-MEHRA-APURV/dp/9389776767/ref=sr_1_1?crid=VK072DGXPFC5&keywords=Orthopaedics+quick+review+Apurv+Mehra&qid=1649776767&sr=1-1)
  7. Vikas V. Patel, Alpesh Patel, James S. Harrop, Evalina Burger. Spine Surgery Basics. Springer Science & Business Media, 2013:  
[https://www.amazon.in/Spine-Surgery-Basics-Vikas-Patel-ebook/dp/B00F3YAUQ2/ref=sr\\_1\\_2?crid=3566Q58KONP8W&keywords=spine+surgery+basics+vikas&qid=1649878082&sr=1-2](https://www.amazon.in/Spine-Surgery-Basics-Vikas-Patel-ebook/dp/B00F3YAUQ2/ref=sr_1_2?crid=3566Q58KONP8W&keywords=spine+surgery+basics+vikas&qid=1649878082&sr=1-2)
  8. M. McNally, R. Sousa, M. WouthuyzenBakker, AF Chen, A. Soriano,
  9. HC Vogely, M. Clauss, CA Higuera, R. Trebše. The EBJIS definition of periprosthetic joint infection. Bone Joint J, 2021:  
[https://ebjis.org/fileadmin/user\\_upload/EBJIS/EBJIS2021/EBJIS\\_PJI\\_Def\\_2021.pdf](https://ebjis.org/fileadmin/user_upload/EBJIS/EBJIS2021/EBJIS_PJI_Def_2021.pdf)
  10. Bryan D. Springer, Javad Parvizi. Periprosthetic Joint Infection of the Hip and Knee. Springer New York Heidelberg, 2014:  
<http://rentals.springer.com/product/9781461479284>
  11. Bentley, George ( Ed.) European Surgical Orthopaedics and Traumatology : The EFORT Textbook. Springer, 2014:  
<https://link.springer.com/referencework/10.1007/978-3-642-34746-7>

### **CONSULTING TEACHERS**

1. Coordinating lecturer: Valentinas Uvarovas (Prof. Dr.).
2. Igoris Šatkauskas (Assoc. Prof. Dr.).
3. Narūnas Porvaneckas (Prof. Dr.).
4. Vytautas Tutkus (Assoc. Prof. Dr.).

### **APPROVED:**

By Council of Doctoral School of Medicine and Health Sciences at Vilnius University:  
 29<sup>th</sup> of September 2022

Chairperson of the Board: Prof. Janina Tutkuvienė