

**VILNIAUS UNIVERSITETO DOKTORANTŪROS STUDIJŲ DALYKO SANDAS**  
(for all University)

<b>Scientific Area/eas, Field/ds of Science</b>	Medical and Health Sciences (M 000): Medicine (M 001); Odontology (M 002); Pharmacy (M003); Public Health (M 004); Nursing (M005) Natural Sciences (N 000): Paleontology (N 007); Biology (N10); Ecology and Environmental Sciences (N012); Zoology (N014) Humanities (H 000): History (H005)			
<b>Faculty, Institute, Department/Clinic</b>	Department of Anatomy, Histology and Anthropology Institute of Biomedical Sciences Faculty of Medicine			
<b>Course unit title</b> (ECTS credits, hours)	<b>Paleopathology</b> 6 credits (162 hours)			
<b>Study method</b>	<b>Lectures</b>	<b>Seminars</b>	<b>Consultations</b>	<b>Self-study</b>
Number of ECTS credits	1	2	1	2
<b>Method of the assessment</b> (in 10 point system)	Presentation at the end of the course: presentation on topic relevant to research project (systemic review of scientific publications). Assessment criteria (minimal score – 5): a) how presentation is actual, contains new materials and corresponds to research project (2 points); b) general structure, clear presentation, argumentation, relevance of presentation (2 points); c) summarizing and conclusions (1 point); d) raising of problematic points, perspectives of application in own research project (3 points); e) organization of visual materials, ability to discuss, management of questions, eloquency (2 points).			
<b>PURPOSE OF THE COURSE UNIT</b>				
The objective of the course is to provide systemic knowledge about paleopathology as studies providing systemic knowledge about traces of diseases, their causes, incidence and consequence in history and prehistory.				
<b>THE MAIN TOPICS OF COURSE UNIT</b>				
Biology of skeletal tissues. Objects of paleopathology: human remains (skeleton, soft tissues and other artefacts), archaeological, historical, artistic sources. Macroscopic and microscopic methods of diagnostics (X-ray and other imaging techniques, histology, DNA, proteomics etc.). Specificity of analysis of mummified remains. Ethics and legal framework of bioarchaeological studies. Diagnostics of particular pathological changes. Traumas, their mechanism, healing. Traces of surgical interventions in skeletons. Differential diagnostics of perimortal and postmortal changes. Traces of inflammations and infectious diseases (periostitis, osteomyelitis, tuberculosis of bones and joints, tertiary syphilis, leprosy etc.). Laboratory methods for pathogen detection. Circulatory bone disruptions, diseases of haematopietic organs and their traces in bones. Traces of metabolic and nutrition deficiency diseases (vit. C, D avitaminoses, endocrine diseases), neuromechanic deformations, skeletal malformations and congenital dysplasias, tumors – their characteristics and traces in human skeletons. Pathology of joints (degenerative lesions of vertebral column and joints, arthritis and arthropathies). Pathology of masticatory apparatus (malformations, dental attritions, caries and it's				

complications, calculus, periodontal pathology, dental loss). Unspecific markers of stress (growth disruptions, fluctuating asymmetry, Harris lines, linear enamel hypoplasia etc.), regularities of their occurrence and interpretations. Markers of physical activity. Postmortal changes of skeleton (diagenesis) and their differential diagnostics. Application of clinical criteria in paleopathology (osteoarchaeological syndrome), relations between historical (written) and archaeological sources, concepts of "disease" and "illness". Character of bioarchaeological materials and factors affecting them. Principles of paleoepidemiology and "osteological paradox". Epidemiological situation among hunter-gatherers, early agriculturalists, early urban populations. Paleopathology in Baltic countries in prehistory, protohistory, medieval and early modern times. Main periodicals, activities of Paleopathology association.

### **RECOMMENDED LITERATURE SOURCES**

1. Aufderheide A.C. The scientific study of mummies (2nd ed.). Cambridge University Press, 2011.
2. Aufderheide A.C., Rodríguez-Martín C. The Cambridge encyclopedia of human paleopathology (2nd ed.). Cambridge University Press, 2011.
3. Brickley M., Ives R., Mays S. The Bioarchaeology of Metabolic Bone Disease, 2nd ed. Elsevier, 2020.
4. Buikstra J.E. Ortner's Identification of Pathological Conditions in Human Skeletal Remains, 3rd ed. Elsevier, 2019.
5. Chhem R., Brothwell D.R. Paleoradiology– Imaging Mummies and Fossils. Springer, 2010.
6. Steckel R.H., Larsen C.S., Roberts C.A., Baten J. The Backbone of Europe: Health, Diet, Work and Violence over Two Millennia. Cambridge University Press, 2018. DOI: <https://doi.org/10.1017/9781108379830>
7. Steckel R.H., Rose J. K. The backbone of history: health and nutrition in the Western Hemisphere. Cambridge University Press, 2002.
8. Waldron T. Palaeopathology (Cambridge Manuals in Archaeology), 2nd ed. Cambridge University Press, 2018.

### **CONSULTING LECTURERS**

1. Coordinating lecturer: Rimantas Jankauskas (Prof. Dr.).
2. Justina Kozakaitė (Assist. 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 Tutkuviene