UNIVERSITY OF NOVI SAD
FACULTY OF MEDICINE

Study program: Doctoral Academic Studies in Biomedical Sciences

Name of the subject: BASICS OF PHYSICAL ANTHROPOLOGY

Teacher(s): Biljana Đ. Srdić Galić, Tatjana Pavlica, Siniša S. Babović, Dušica L. Marić, Mirela M. Erić, Bojana S. Krstonošić, Nikola M. Vučinić, Tatjana Pavlica

Status of the subject: elective

Number of ECПБ points: 20

Condition: -

Goal of the subject

The goal of the subject is to introduce PhD students to theoretical and practical aspects of physical anthropology and using them in medical research. The focus of this subject are functional morphology, anthropometry, body composition, variability of human body characteristics and changes caused by aging and development, sexual dimorphism, heritable and epigenetic characteristics, biological structure and dynamics of modern humans, human ecology and adaptation, biocultural evolution, and application of anthropological knowledge in medicine, forensics and ergonomy.

Outcome of the subject

Students will gain knowledge about morphofunctional characteristics of different populations, variability and adaptability of human beings, their mechanisms and methods of examination and levels of biological organization. Students will get acquainted with anthropological methods and techniques and their applicability in clinical and experimental researches. This integral, multidisciplinary approach is very important in the interpretation of results of medical researches, particularly in temporal and spatial context.

Students will gain practical skills of anthropometry that is the integral part of many medical researches. They will be introduced to body composition analysis techniques, basic biometric methods, somatoscopy, assessment of maturity status and using osteometry in the assessment of sex and body stature.

Content of the subject

Theoretical lectures

1. Introduction to anthropology and fields of physical anthropology; 2. Typological, populational, and clinal models of classification of human beings; 3. Levels of biological organization; 4. Body composition models; 5. Variability in human anatomy and physiology; 6. Human biological adaptability; 7. Race and ethnic dependent body characteristics; 8. Diurnal and age-related differences in body dimensions and composition; 9. Body characteristics during growth and development; 10. Sexual dimorphism; 11. Epigenetic variations; 12. Basic methods in physical anthropology; 13. Skeletal biology; 14. Anthropometry in medical researches; 15. Anthropometry in the growth and development monitoring; 16. Body proportions, dynamic anthropometry and ergonomy; 17. Forensic anthropometry and biometry; 18. Physiognomy, characterology and constitutional physiology; 19. Medical anthropology – biocultural aspect of health and diseases.

Practical lectures

1. Instruments in anthropology; measurement requirements; 2. Determination of anatomical reference points; 3. Practical anthropometric measurements: measures of longitudinal and transversal skeletal dimensions, measures of body voluminosity and skinfold thicknesses; 4. Standard indexes for assessment of overall nutritional status body fat distribution; 5. Body composition methods (calculation of skeletal, muscular and fat mass based on the anthropometric measures; somatotypization; bioelectrical impedance measurement); 6. Craniometry; 7. Maturity status assessment (chronological and biological age); 8. Dermatoglyphics; 9. Osteometric points and skeletal measures; 10. Non-metrical variants of human skeleton; 11. Estimating age and sex from skeleton; 12. Anthropological knowledge in concrete medical scientific projects – practical issues and considerations.

Recommended literature

Compulsory

1. Stein PL, Rowe BM. Physical anthropology. McGraw-Hill Education, 2013.
2. Harrison GA., Tanner JM., Pilbeam DR., Baker PT. Human Biology, An introduction to human evolution, variation, growth, and adaptability, Oxford University Press, 1988.
3. Eston R, Reilly T. Kinanthropometry and exercise: physiology laboratory manual. Tests, procedures and data. Routledge Taylor&Francis Group, London and New York 2004.
4. National Health and Nutrition Examination Survey (NHANES) – Anthropometry Procedures Manual. CDC, 2009. Available at: http://www.cdc.gov/nchs/data/nhanes/nhanes _07_08/manual_an.pdf

Additional

1. Park MA. Biological anthropology. Mayfield Pub. Co. 1999.
2. Shepard RJ. Body Composition in Biological Anthropology (Cambridge Studies in Biological and Evolutionary Anthropology). Cambridge University Press, 1991.
3. Byers SN. Forensic Anthropology. Boston: Pearson Education LTD, 2008.
4. McConville JT. NASA Anthropometric Source Book, Anthropology Research Project (Yellow Springs), United Nations
5. Marks J. Human Biodiversity: Genes, Race, and History. New York: Aldine de Gruyter, 1995.
6. Heyward HV, Stolarczyk ML. Applied Body Composition Assessment. Human Kinetics, 1996.

Number of active classes	**Theory**: 60	**Practice**: 45

Methods of delivering lectures: lectures and laboratory works

Evaluation of knowledge (maximum number of points 100)

lectures: 15
practices: 25
essay: 20
written exam : 40