

<b>Study program:</b> Integrated academic studies in medicine			
<b>Type and level of the study program:</b> integrated academic studies			
<b>Course title:</b> Nuclear medicine (M4-NUCL)			
<b>Teacher:</b> Jasna M. Mihailović, Radmila R. Žeravica, Branislava P. Ilinčić, Nataša M. Prvulović Bunović, Ana Jakovljević			
<b>Course status:</b> elective			
<b>ECTS Credits:</b> 3			
<b>Condition:</b>			
<b>Course aim</b> The aim of this course is to provide students with knowledge on basic rules for application of open sources of ionizing radiation and diagnostic and therapeutic options of radioactive isotopes.			
<b>Expected outcome of the course:</b> Student learn about basic nuclear diagnostic and therapy methods in particular fields of medicine, basic principles of radiation detection, nuclear-medicine imaging, equipment and instruments and preparing patients for nuclear-medicine examination. Students learn to interpret nuclear medicine findings, their diagnostic value and limitations.			
<b>Course description</b> <i>Theoretical education</i> Includes lectures of basic principles of nuclear medicine and clinical nuclear medicine. In the first part following issues will be discussed: radioactive isotopes and radiation, physical principles of radiation detection and equipment (scintillation detector, gamma camera, PET), basic principles of radiobiology, radio-pharmacology and radiation protection. Second part will include basic principles of clinical application of nuclear-medicine methods in different clinical conditions, as well as radionuclide therapy.  <i>Practical education: exercises, other forms of education, research related activities</i> It represents the introduction to the safety rules in nuclear medicine departments, the use of radioisotopes in nuclear-medicine laboratory: features and application, basic principles of radiopharmaceutical preparations, dosimetry, as well as the basic principles of interpretation of nuclear medicine findings.			
<b>Literature</b> 1. Mihailovic J, Goldsmith SJ, Killeen R. FDG PET/CT in Clinical Oncology. Case Based Approach with Teaching Points. Berlin Heidelberg: Springer Verlag, 2012. ISBN: 978-3-642-29865-3. 2. Luster M, Duntas LH, Wartofsky L, eds. The thyroid and its disease. Springer International Publishing AG, Switzerland, 2019. 3. D.L. Bailey, J.L. Humm, A. Todd-Pokropek, A. van Aswegen. Nuclear Medicine Physics A Handbook for Teachers and Students. International atomic energy agency Vienna, 2014. 4. Peter F. Sharp, Howard G. Gemmell and Alison D. Murray (Eds). Practical Nuclear Medicine Third Edition. Springer-Verlag, London, 2005 5. Fred A. Mettler, Milton J. Guiberteau. Essentials of Nuclear Medicine and Molecular Imaging. Elsevier, 2018. eBook ISBN: 9780323567893 6. Duccio Volterrani, Paola Anna Erba, Ignasi Carrió, H. William Strauss, Giuliano Mariani. Nuclear Medicine Textbook. Methodology and Clinical Applications. Springer Nature Switzerland AG 2019 Available as hardcover, EPUB and PDF 7. Shankar Vallabhajosula. Molecular Imaging and Targeted Therapy. Radiopharmaceuticals and Clinical Applications. Springer Nature Switzerland AG 2023. Available as hardcover, EPUB and PDF			
<b>Number of active classes</b>			Other:
Lectures: 30	Practice: 15	Other types of teaching: Research related activities:	
<b>Teaching methods:</b> Interactive lectures and practices; Consultations; Essays			
<b>Student activity assessment (maximally 100 points)</b>			
<b>Pre-exam activities</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	10	Written	
Practices	20	Oral	60
Colloquium		.....	
Essay	10		