

<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> <b>DIAGNOSTIC AND MOLECULAR IMAGING (M5-DMIMG)</b>			
<b>Teacher:</b> Vučaj Ćirilović A. Viktorija, Kozić B. Duško, Koprivšek M. Katarina, Lovrenski D. Jovan, Lučić A. Miloš, Nikolić R. Olivera, Prvulović Bunović M. Nataša, Stojanović S. Sanja, Til E. Viktor, Lučić M. Silvija			
<b>Course status:</b> elective			
<b>ECTS Credits:</b> 3			
<b>Condition:</b> -			
<b>Course aim</b> Training students for: 1. Systematic identification and differentiation between the normal anatomical from pathological anatomical structures and tissue/organ functions by using various diagnostic and multiparametric functional/structural/metabolic/molecular diagnostic imaging methods; 2. Recognition of indications for the different diagnostic procedures and understanding of decision-making process on the use of different methods within multiparametric diagnostic algorithms; 3. Mastering advanced diagnostic and functional/structural/metabolic/molecular imaging techniques (computerized tomography, magnetic resonance imaging, radionuclide imaging, positron emission tomography and hybrid imaging methods (PET/CT and PET/MRI), etc.), including dynamic, spectroscopic, diffusion, perfusion and functional imaging; 4. Application of interventional diagnostic and therapeutic methods and procedures.			
<b>Expected outcome of the course:</b> Lectures should provide students with basic and advanced knowledge of diagnostic and functional/structural/metabolic/molecular imaging methods, use of contrast, radionuclide agents and other biomarkers in diagnostic and medical imaging, and use of different imaging techniques in order to obtain optimal diagnostic morphoanatomic and/or functional/structural/metabolic/molecular information, as well as basic knowledge on diagnostic and therapeutic interventional procedures. Additionally, determination of indicator areas for using various imaging and functional/structural/metabolic/molecular methods and interventional procedures, learning different diagnostic and functional/molecular imaging techniques, recognition of pathology, describing and interpretation of findings should be provided.			
<b>Course description</b> <i>Theoretical education</i> 1. Fundamentals of diagnostic and molecular imaging; 2. Chest imaging; 3. Cardiovascular imaging; 4. Imaging of the abdomen; 5. Imaging the urinary tract; 6. Imaging of the pelvis; 7. Musculoskeletal imaging; 8. Breast imaging; 9. Neuroradiological imaging 1; 10. Neuroradiological imaging 2; 11. Magnetic resonance spectroscopy and functional MRI; 12. Fetal diagnostic imaging; 13. Interventional radiology procedures; 14. Radionuclide imaging; 15. Hybrid PET/CT and PET/MRI imaging.  <i>Practical education: exercises, other forms of education, research related activities</i> Practical training corresponds to aforementioned theoretical topics.			
<b>Literature</b> <i>Compulsory</i> 1. Suetens P. Fundamentals of Medical Imaging, 2 <sup>nd</sup> ed. Cambridge University Press, 2009. 2. Adam A, Dixon AK (eds.). Grainger & Allison's Diagnostic Radiology - A Textbook of Medical Imaging, 5 <sup>th</sup> ed. Elsevier Churchill Livingstone, 2008. 3. Diagnostic and molecular imaging (textbook for students of medicine). Cathedra of Radiology, Medical Faculty Novi Sad (in preparation) <i>Additional</i> 1. Lisle DA. Imaging for students. Arnold/Oxford University Press, 2001. 2. Chen MYM, Pope TL, Ott DJ. (eds.) Basic Radiology, 2 <sup>nd</sup> ed. McGraw Hill Medical, 2011. 3. Ribes R, Luna A, Ros PR. (eds.) Learning Diagnostic Imaging. Springer -Verlag, Berlin Heidelberg, 2008.			
<b>Number of active classes</b>			Other:
Lectures: 15	Practice: 30	Other types of teaching:  Research related activities:	
<b>Teaching methods</b> Lectures, practice			
<b>Student activity assessment (maximally 100 points)</b>			
<b>Pre-exam activities</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	20	Written	30
Practices	30	Oral	20
Colloquium			
Essay			