Information sheet for the course
Nuclear Medicine

University: *Alexander Dubček University of Trenčín*	
Faculty: *Faculty of Health Care*	
Course unit code: *NukMed/d*	**Course unit title:** *Nuclear Medicine*
Type of course unit: *compulsory*	
Planned types, learning activities and teaching methods: *Lecture: 2 hours weekly/26 hours per semester of study; full-time*	
Number of credits: *3*	
Recommended semester: *2nd semester in the 1st year (full-time)*	
Degree of study: *I (bachelor)*	
Course prerequisites: *none*	
Assessment methods: *Written or oral examination (50 score points) - for obtaining the particular grades it is necessary to achieve:* *at least 45 score points for the grade A* *at least 40 score points for the grade B* *at least 35 score points for the grade C* *at least 30 score points for the grade D* *at least 25 score points for the grade E*	
Learning outcomes of the course unit: *The student will acquire knowledge by studying the principles of nuclear medicine, diagnostics by opened radioactive sources in all directions, including tomography, conventional gamma emitters (SPECT), positron emitters (positron emission tomography - PET), as well as in vitro diagnostics.*	
Course contents: 1. *Atom, atom structure, core, cover, base particles.* 2. *Biophysics of cells. Electric speeches cells. Action potential. Reflex arc.* 3. *Radioactivity and ionizing radiation. Establishment. Effects on living matter.* 4. *Detection of ionizing radiation.* 5. *Radiation protection.* 6. *Radiopharmaceuticals. Cybernetic systems, principles of modeling, theory and information management control. Biological principles of some therapeutic methods in medicine.* 7. *Nuclear medicine in vivo, in vitro.* 8. *PET, SPECT, PET / CT* 9. *Principles of diagnostic imaging methods according to organ systems.* 10. *Diagnosis of diseases of the chest organs, blood vessels and heart.* 11. *Diagnosis of CNS. Diagnosis skeleton GIT* 12. *RIA methods.*	
Recommended of required reading: 1. *NAVRÁTIL, L. – ROSINA, J.: Lékařská biofyzika. Praha : MANUS, 2009. 349 p. ISBN 80-902318-5-3.* 2. *SLOBODNÍKOVÁ, J. – FURDOVÁ, A. – KRÁLIK, G. – ŠRAMKA, M.: Moderné zobrazovacie, diagnostické a liečebné metódy. Bratislava : VŠZaSP sv. Alžbety, 2012. 144 p. ISBN 978-80-89464-18-8* **.** 3. *ŠAJTER, V. a kol.: Biofyzika, biochémia a rádiológia. Martin : Osveta, 2006. 272 p. ISBN 80-8063-210-3.*	

4. *ŠEVČÍKOVÁ, L. a kol.: Vybrané kapitoly z lekárskej biofyziky, rádiológie, rádiodiagnostiky a rádioterapie v onkológii. Bratislava : SZU, 2004. 79 p.*

Language: *Slovak*

Remarks: -

Evaluation history: *Number of evaluated students -*

A	B	C	D	E	FX
-	-	-	-	-	-

Lectures: *doc. MUDr. Jana Slobodníková, CSc.*

Last modification: *22.4.2014*

Supervisor: *doc. MUDr. Jana Slobodníková, CSc.*