
	UNIVERSITY OF BANJA LUKA FACULTY OF MEDICINE			
	UNDERGRADUATE STUDIES			
	Study Programme of:	MEDICINE		
Course unit name	Nuclear Medicine			
Type of course unit	Applied Professional			
Course unit code	Course unit status	Semester	Class Workload	Number of ECTS credits
TO BE DESIGNATED	COMPULSORY	VIII	1L+1P	2
Members of Staff	Vera Artiko, PhD, Full Professor; Dragana Sobic-Saranovic, PhD, Full Professor; Sinisa Stankovic, PhD, Assistant Professor; Sonja Bobić-Zarač, Expert Associate			
Eligibility Requirements			Form of Requirements	
All course units from the previous academic year having been passed			In accordance with I Cycle Academic Studies Rules of Studying	
Goals of the Course Unit:				
Acquiring knowledge about operating open sources of radiation, about radioactive isotopes, about characteristics and preparation of isotopes applied in nuclear medicine, in generators, in radio-pharmaceuticals, in instrumentation, in protection measures concerning open sources of radiation, in radio-isotopes and radio-pharmaceuticals in diagnostics and in therapy.				
Learning Outcomes (acquired knowledge):				
Understanding basic principles of nuclear medicine. The students will have gained basic knowledge about operating open sources of radiation, about preparations for clinical application of radio-isotopes and radio-pharmaceuticals, about operating nuclear medicine devices, about acquisition, processing, and interpretation of data, about application of protective measures, and about proper management of patient during a procedure. In the end, students will have gained knowledge about performing diagnostic and therapeutic nuclear medicine procedures and their clinical application.				
Contents of the Course Unit:				
Introduction to Nuclear Medicine Radioactivity and Radioactive Decay, Isotopes Open Sources of Radiation Physiological Foundations of Radionuclides Application Radiopharmaceuticals Production of Isotopes Applied in Nuclear Medicine, Generators Protection against Radiation, Contamination, and Decontamination Principles of Radiation Detection Instrumentation in Nuclear Medicine Gamma Camera, SPECT (Single Photon Emission Computed Tomography) Nuclear Medicine in Endocrinology Nuclear Medicine in Cardiology and Pulmonology Nuclear Medicine in Oncology Nuclear Medicine in Nephro-Urology and Gastro-Enterology Nuclear Medicine in Neurology and Pediatrics Application of Nuclear Medicine in Other Fields of Medicine PET (Positron Emission Tomography) Fundamentals of Radionuclide Therapy				
Teaching Methods:				
The classes are given in the form of lectures and practical classes, with continuous revision through practicals, seminars, midterms, office hours, and independent students' work.				

Literature:

1. Sharp, P. F., Gemmel, H. G., & Murray, A. D. (Eds.). (2005). *Practical nuclear medicine*. Springer.
2. Mettler, F. A., Jr., & Guiberteau, M. J. (2019). *Essentials of nuclear medicine and molecular imaging* (7th ed.). Elsevier.

Examination Forms:

Pre-Exam Duties		Final Exam		Total Points
Attendance	30			100
Midterms		Oral/Written	70	
Seminar Paper				

Note for the Course Unit:

Syllabus designer: Sinisa Stankovic, PhD, Assistant Professor