

Course Information Sheet

University: <i>University of Prešov in Prešov</i>	
Faculty: <i>Faculty of Humanities and Natural Sciences</i>	
Code: <i>2FYZ/mJADRO/22</i>	Title of Course: <i>GENERAL PHYSICS 4 - Atomic and Nuclear Physics</i>
Form of Study: <i>Lectures, seminars, laboratory work</i>	
Number of contact hours: <i>39</i>	
per week: <i>2/0/1</i> per level/semester:	
Number of credits: <i>4</i>	
Semester: <i>summer</i>	
Degree/Level: <i>1. level</i>	
Prerequisites: <i>The general course of Physics, the basis of differential and integral calculus.</i>	
Grading Policy (Assessment/Evaluation): <i>feed back (20%), oral exam (80%)</i> <i>A= min. 90%, B= min. 80%, C= min. 70%, D= min. 60%, E= min. 50%, FX < 50%</i>	
Aims and Objectives: <i>The course consists of University lectures and seminars. The aim of the course is to provide to students the basic knowledge about Atomic and Nuclear Physics, to teach them to systematically work with the recommended.</i>	
Syllabus/Indicative Content: <i>1. Introduction to the Atomic Physics. 2. Atomic structure of the matter and charge, atomic shell. 3. Atomic hypothesis. 4. Atom models. 5. Alpha particles scattering on the Au foil. 6. Molecule bindings. 7. Introduction to the Nuclear Physics. 8. History of the Nuclear Physics. 9. Nuclei models. Radioactivity. Nuclear decay. 10. Classification of the elementary particles. 11. Cosmic rays and environment. 12. Accelerators and detectors of the particles.</i>	
Suggested readings: <i>1. Úlehla, I. a kol. 1990. Atomy, jádra, částice. Praha: Academia. 2. Šterba, F. a kol. 1980. Atómová a jaderná fyzika. Praha: SPN. 3. Beiser, A. 1975. Úvod do moderní fyziky. Praha: Academia. 4. Oravec, J. 1979. Atómová a jadrová fyzika. Bratislava, UK. 5. Савельев И. В. Курс общей физики том 3 (Атомная физика, физика атомного ядра и элементарных частиц) 6. Иродов И. Е. Задачи по общей физике. 7. Vanovič, J. 1980. Všeobecná fyzika IV. –Atómová fyzika. Bratislava, Praha: Alfa, SNTL. 8. Síleš E., Martinská G. Všeobecná fyzika IV., časť I. a II. Košice: UPJŠ(skriptá)</i>	
Language of Instruction: <i>English</i>	
Other course information:	
Lecturer/Instructor: <i>doc. RNDr. Sergej Il'kovič, PhD.</i>	
Last update: <i>3. mája 2024</i>	
Approved by: <i>Dr. h. c. doc. PaedDr. Vladimír Šebeň, PhD.</i>	