

Title Atomic and Nuclear Physics (Fizyka atomowa i jądrowa)	Code 1010401231010420689
Field TECHNICAL PHYSICS	Year / Semester 2 / 3
Specialty -	Course core
Hours Lectures: 3 Classes: - Laboratory: 2 Projects / seminars: -	Number of credits 5
	Language polish

Lecturer:

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Status of the course in the study program:

Core course of the study for Technical Physics, Faculty of Technical Physics.

Assumptions and objectives of the course:

The students should obtain knowledge of fundamentals of atomic and nuclear physics

Contents of the course (course description):

Thermal Radiation and Planck's Postulate. Photons--Particlelike Properties of Radiation. De Broglie's Postulate--Wavelike Properties of Particles. Bohr's Model of the Atom. Schroedinger's Theory of Quantum Mechanics. Solutions of Time-Independent Schroedinger Equations. One-Electron Atoms. Magnetic Dipole Moments, Spin, and Transition Rates. Multielectron Atoms--Ground States and X-Ray Excitations. Nuclear Models. Nuclear Decay and Nuclear Reactions. Introduction to Elementary Particles.

Introductory courses and the required pre-knowledge:

Basic knowledge of physics and mathematics

Courses form and teaching methods:

Lectures and computer laboratory

Form and terms of complete the course - requirements and assessment methods:

Written exam and tests.

Basic Bibliography:

1. R.Eisberg, R.Resnick, Fizyka kwantowa, PWN Warszawa 1983
2. H.Haken, H.Wolf, Atomy i kwanty, PWN Warszawa 2002
3. T.Mayer-Kuckuk, Fizyka jądrowa, PWN Warszawa 1987
4. E.Skrzypczak, Z.Szyfliński, Wstęp do fizyki jądra atomowego i cząstek elementarnych, PWN Warszawa 2002
5. S.Wolfram, The Mathematica Book , 5 th ed., Wolfram Media 2003

Additional Bibliography:

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