

Title Physics	Code 1010701111010400055
Field Chemical and Process Engineering	Year / Semester 1 / 1
Specialty -	Course core
Hours Lectures: 3 Classes: 1 Laboratory: - Projects / seminars: -	Number of credits 7
	Language polish

Lecturer:

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Faculty:

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Status of the course in the study program:

general/basic

Assumptions and objectives of the course:

students should obtain knowledge of fundamentals physical phenomena and their theoretical descriptions on the academic level in the fields of: mechanics (classical, relativistic and quantum), thermodynamics, electrodynamics, electric and magnetic properties of matter, solid state physics and atomic, nuclear and particle physics.

Contents of the course (course description):

The basics of classical (Newton) mechanics. The elements of relativistic mechanics. Waves and fundamentals wave phenomena. Introduction to statistical physics. The basics of phenomenological thermodynamics. Electricity and electromagnetism. Electronic properties of matter, electric conduction. Magnetic properties of matter. The classical theory of electromagnetic field. The introduction to quantum mechanics. The elements of atomic physics. Some topics of solid state physics, nuclear and particle physics

Introductory courses and the required pre-knowledge:

basic knowledge of physics - secondary school level.

Courses form and teaching methods:

lectures supported by experiments and computer simulations of phenomena, calculation exercises

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

solution of objectives in writing, oral examination.

Basic Bibliography:

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Additional Bibliography:

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