

Title Physics	Code 1010701311010400542
Field Environmental Protection Technologies	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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Status of the course in the study program:

general/basic

Assumptions and objectives of the course:

The student should obtain knowledge of theoretical fundamentals of physics and its application.

Contents of the course (course description):

Mechanics: particle kinematics and dynamics, Newton`s laws, work and energy, conservative and nonconservative forces, conservation of linear momentum, rotational kinematics and dynamics, conservation of angular momentum. Relativistic mechanics. Oscillations. The gravitational field. Fluid mechanics. Waves in elastic media. Temperature expansion. Gas processes. Heat. Thermodynamics. The electric field: Coulomb?s law and Gauss?s law. Electric current. The magnetic field. Faraday?s law of induction. Magnetic properties of matter. Electromagnetic oscillations and waves; Maxwell?s laws. Geometrical optics. Wave optics. Quantum physics. Temperature radiation. Photoelectric effect. Matter waves. Solid state physics. Structure of crystals. Metals. Semiconductors. Basis of nuclear physics.

Introductory courses and the required pre-knowledge:

Basic knowledge of mathematics and physics.

Courses form and teaching methods:

Lectures supported by transparencies and films; experiments.

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

Examination, tests.

Basic Bibliography:

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Additional Bibliography:

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