

Title Physics for Mechatronics	Code 10102553210102202471
Field Mechatronics	Year / Semester 1 / 2
Specialty -	Course core
Hours Lectures: 2 Classes: - Laboratory: 1 Projects / seminars: -	Number of credits 5
	Language polish

Lecturer:

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Faculty:

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Status of the course in the study program:

Obligatory

Assumptions and objectives of the course:

To provide the students with the physical background knowledge to construct and to use mechatronic devices. Also to encourage them to apply the latest physics developments in mechatronics.

Contents of the course (course description):

basics of quantum physics, dualism of waves and matter, quantum theory of radiation, photoelectric effect, Doppler effect, electro-optical and magneto-optical effect, quantum structure of matter, band structure of solids, electrical and magnetic properties of solids, thermoelectrical effects (Peltier etc.), piezoelectric and ferroelectric effect, physics of semiconductors, Hall effect, p-n junction.

Introductory courses and the required pre-knowledge:

Basic physics knowledge.

Courses form and teaching methods:

Lecture course and student laboratory.

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

Written and oral.

Basic Bibliography:

Additional Bibliography: