

Title Photonics	Code 1018071710108310178
Field Electronics and Telecommunications	Year / Semester 4 / 7
Specialty -	Course core
Hours Lectures: 2 Classes: - Laboratory: - Projects / seminars: -	Number of credits 0
Language polish	

Lecturer:

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Status of the course in the study program:

Obligatory course for students of Electronics and Telecommunications.

Assumptions and objectives of the course:

Increasing knowledge of modern photonics, operation of optical devices used in optical communications and optical signal processing.

Contents of the course (course description):

Ray optics. Wave optics. Electromagnetic optics. Quantum optics. Optical wave-guides. Photonic crystal fibers. Optical resonators. Fundamentals of quantum mechanics. Interaction of Photons and atoms. Optical amplification. Theory of laser oscillation. Laser classification and performances. Semiconductor optical devices. Principles of electrooptics. Nonlinear optics. Photonic switching and computing. Optical signal processing. Selected topics of an integrated optics. Optical test and measurement.

Introductory courses and the required pre-knowledge:

Optics, optoelectronics.

Courses form and teaching methods:

Lectures.

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

Written exam.

Basic Bibliography:

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Additional Bibliography:

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