

Title (Teoria informacji)	Code 1018051210108130301
Field Electronics and Telecommunications	Year / Semester 1 / 2
Specialty -	Course core
Hours Lectures: 2 Classes: 10 Laboratory: - Projects / seminars: -	Number of credits 0
	Language polish

Lecturer:

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Status of the course in the study program:

Obligatory course in the study field EElectronics and Telecommunications (M.Sc. course, extramural studies)

Assumptions and objectives of the course:

Getting acquainted with theoretical foundations of information transmission

Contents of the course (course description):

Model of an information transfer system, message source models, characteristics of message sources, entropy and its application in source characterisation, source coding and its limits, several source coding algorithms (Huffman, dynamic Huffman, arithmetic, Lempel-Ziv), reliable information transfer over unreliable channels, mutual information, channel models, channel capacity, calculation of channel capacity for several channel models, importance of channel coding in getting closer to the Shannon limits, Shannon theorem on reliable information transfer over unreliable channels, decision rules (MAP and ML).

Introductory courses and the required pre-knowledge:

Basic knowledge on communication systems, probability and random processes.

Courses form and teaching methods:

Lecture + problem sessions

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

Checking knowledge during problem sessions + written examination

Basic Bibliography:

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Additional Bibliography:

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