Title	Code
Information Theory	**1018021810108010101**
Field: **Electronics and Telecommunications**	Year / Semester: **4 / 8**
Specialty: **-**	Course: **core**
Hours: Lectures: **2** Classes: **1** Laboratory: **-** Projects / seminars: **-**	Number of credits: **4**
	Language: **polish**

Lecturer:

dr hab. inż. Hanna Bogucka
Wydział Elektroniki i Telekomunikacji
ul. Polanka 3
60-965 Poznań
tel. 061-665-3911, fax. 061-665-3823
e-mail: hbogucka@et.put.poznan.pl

Faculty:

Faculty of Electronics and Telecommunications
ul. Piotrowo 3A
60-965 Poznań
tel. (061) 665-2293, fax. (061) 665-2572
e-mail: office_det@put.poznan.pl

Status of the course in the study program:

Obligatory course, Faculty of Electronics and Telecommunications, field: Electronics and Telecommunications

Assumptions and objectives of the course:

Knowledge of the principles of transmission of information

Contents of the course (course description):

Model of the information system, models of information sources, characterization of information sources, enthropy and its application in the source characterization, source coding, limits of source coding, Huffman coding, Shannon-Fano coding, Lempel-Ziv coding, arithmetic coding, channel models, channel capacity, calculation of channel capacity, mutual information, Shannon theorem on channel coding and limits of the information rate in transmission over unreliable channels, capacity of selected channel models, theoretical basics of the adaptive modulation.

Introductory courses and the required pre-knowledge:

Basic knowledge of digital communication systems, statistics, probability and stochastic processes theory.

Courses form and teaching methods:

Lectures based on multimedia presentations and classes

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

Credit based on the test of problems solving in the 14th week of the semester; written exam in the form of the test including open questions.

Basic Bibliography:

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Additional Bibliography:

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