Title	Code
Algorithms	**1018021810108310103**
Field: **Electronics and Telecommunications**	Year / Semester: **4 / 8**
Specialty: **-**	Course: **core**
Hours: Lectures: **1** Classes: **-** Laboratory: **1** Projects / seminars: **-**	Number of credits: **3**
	Language: **polish**

Lecturer:

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Faculty:

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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:

Introduction of advanced data structures and programming techniques.

Contents of the course (course description):

Computation models, including parallel computing, measures of computational complexity, introduction to parallel processors. Basic techniques of constructing algorithms with examples. Graph algorithms and their applications. Fast computation of convolutions and DFT, and selected applications in telecommunications. Arithmetic in finite and polynomial rings and its applications. Effects of finite precision of computations, and limited dynamic range of numbers representations. Introduction to iterative methods in telecommunications. Higher order spectra. Searching for large prime numbers and their applications. Introduction to NP-complete difficult computational problems.

Introductory courses and the required pre-knowledge:

An introduction to computing, Introduction to digital signal processing.

Courses form and teaching methods:

Lecture, computer laboratory, notes for three small projects.

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

Tests, projects, and written exam.

Basic Bibliography:

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Additional Bibliography:

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