

Title Network Algorithms	Code 1018071810108210185
Field Electronics and Telecommunications	Year / Semester 4 / 8
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:

Knowledge of algorithms for communication network design and optimization and algorithms for traffic management.

Contents of the course (course description):

Minimum spanning trees. Single-source shortest paths. All-pairs shortest paths. Transitive closure of a directed graph. K shortest paths. Topological sort. Maximum flow. Flows with minimum costs. Application of Lagrangian relaxation in network optimization.

Traffic admission algorithms. Traffic shaping algorithms. Packet scheduling algorithms. Buffer management algorithms. Flow control algorithms. Congestion control algorithms. QoS routing. Differentiated Services: system's architecture, traffic classification and shaping. (G)MPLS: system's architecture, traffic control in MPLS.

Introductory courses and the required pre-knowledge:

An introduction to computing

Courses form and teaching methods:

Lectures illustrated with computer presentations.

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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