

Title PO Broadband Networks	Code 1018221010108210122
Field Electronics and Telecommunications	Year / Semester 5 / 10
Specialty Information Transport Networks	Course core
Hours Lectures: 2 Classes: 1 Laboratory: - Projects / seminars: 2	Number of credits 8
	Language polish

Lecturer:

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Status of the course in the study program:

Elective course for students of Electronics and Telecommunications,
specialization Information Transport Networks.

Assumptions and objectives of the course:

To provide students with the knowledge of architecture and standards of broadband networks including optical networks. Explaining the basic problems of multimedia networks.

Contents of the course (course description):

Lectures: Networks development towards BISDN. Principles generic to all broadband networks. Multimedia services and their parameters. Various types of telecommunications traffic and the bandwidth-upon-demand concept. ITU-T recommendations for BISDN. ATM, including cell format, virtual path and channels, signaling, call control procedures, and QoS mechanisms. BISDN protocols reference model. Physical, ATM, and ATM adaptation layers. ATM switching system architecture and functionality. Switching networks for ATM. The principles of broadband network management and control. QoS in IP networks: IntServe, DiffServe and MPLS. Broadband access networks and convergence networks. Optical networks architectures. Optical Internet. Devices in optical networks. Switching of optical signals. Broadband networks development perspectives.
Projects classes: Designing broadband networks with broadband switching nodes, especially ATM switches.

Introductory courses and the required pre-knowledge:

Basic knowledge of protocols and computer networks taught at Computer networks course.

Courses form and teaching methods:

Lectures supported by multimedia presentations.

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

Individual projects, written exam.

Basic Bibliography:

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Additional Bibliography:

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