

Title Information Network Management	Code POZ04WTS2ICC16
Field Electronics and Telecommunications	Year / Semester 1 / spring
Specialty	Course core
Hours Lectures: 1 Classes: 1 Laboratory: 1 Projects / seminars:	Number of credits 3

Lecturer:

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Status of the course in the study program:

Obligatory course for students of Electronics and Telecommunications.

Objectives of the course:

Understanding of the network management terminology, standards, ideas and mechanisms used in network management systems. Development of familiarity with selected network management platforms and systems.

Course description:

Lectures: Overall concepts of standardized network management. Key terms and concepts. OSI management structure. MIB - management information base. Examples of network management operations. Overview of OSI management standards: CMISE, CMIP, OSI management functional areas, systems management, structure of management information and management information base. Architecture, management services and functions of TMN. TMN concept application methodology. The TCP/IP network management problems: SNMP and SNMPv2 protocols, MIB-II. Comparison of SNMP management to OSI management. OSI management standards implementations. General presentation of selected network management platforms and systems.

Classes: The architecture of MIBII. ASN.1 notation. General coding rules - BER coding. SNMP protocol. Network management platforms. ITIL.

Laboratory: Practical exercises concerning SNMP protocol (operations on MIBs implemented in network devices), MIB (retrieve MIB values using snmpget and snmpgetnext), ASN.1 and BER (students have to decode ASN.1 encoded in BER SNMP packet).

Initial knowledge:

Basic knowledge of protocols and computer networks.

Teaching methods:

Lectures supported by multimedia presentations. Students are given the copy of all presentations. On laboratory work students are given every exercise description and report forms.

Assessment methods:

Individual projects and written exam. The mandatory lab work must be approved before students are allowed to take the exam.

Bibliography:

1. A. Clemm: Network Management Fundamentals, Cisco Press, 2007.
2. Uyles Black, *Network Management Standards*, SNMP, CMIP, TMN, MIBs, and Object Libraries, McGraw-Hill, 1995.
3. W. Stallings: SNMP, SNMPv2, SNMPv3, and RMON1 and 2, (3rd edition), Addison-Wesley, Pearson Education, 2007.