Title **Computer Networks (Sieci komputerowe)**	Code **1010401141010330650**
Field **Edukacja Techniczno-Informatyczna**	Year / Semester **2 / 4**
Specialty **-**	Course **core**
Hours Lectures: **2** Classes: **-** Laboratory: **1** Projects / seminars: **-**	Number of credits **3**
	Language **polish**

Lecturer:

Andrzej Sikorski Ph.D.
Control and Automation Institute

Faculty:

Faculty of Technical Physics
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Status of the course in the study program:

obligatory course

Assumptions and objectives of the course:

Skills and Knowledge of:
Architecture of computer networks
Physical characteristics of the transmission media
C#/C++ programming of networked applications (TCP/UDP)
C#/C++ programming of Internet information system (HTTP)
network monitoring and configuration tools
characteristics,properties and operations of network devices

Contents of the course (course description):

This is rather a theoretical course that includes presentation of the principles, theory and the technology of computer networks. The layers of the ISO-OSI models are presented: physical, data link, network, transport,and application. The layers are presented in the context of TCP-IP, the most pervasive network protocol.The presentation follows the conventions used in the "Computer Networks" textbook by A.S. Tanenbaum and reflects the newest and most important networking technologies with a special emphasis on wireless networking, including 802.11, Bluetooth, broadband wireless, ad hoc networks, i-mode, and WAP.

Programming techniques of network application development are also presented. These include: programming in c# preliminaries,
processing of the text and binary data, conversion between various formats, data encoding,
socket interface in c++/c#, brief survey and consolidation of c++ programming skills.

Various modes of network server operation are discussed: blocking, multithreaded and asynchronous. Basic of
parallel and concurrent programming are also discussed.

Introductory courses and the required pre-knowledge:

Basic programming skills
Some knowledge of calculus

Courses form and teaching methods:

Lecture
Laboratory

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

semester examination

project assignment

tests

laboratory problems

Basic Bibliography:

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Additional Bibliography:

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