

Title:	Computer Networks
Lecture hours:	30
Study period: (summer/winter)	summer
Number of credits:	6 ECTS
Assessment methods:	Written examination
Language of instruction:	English
Prerequisites:	English B1/B2
Course content:	<ol style="list-style-type: none"> 1. Basics of communications: impact of computer networks on human life, concepts of networks, data, local area networks (LANs), wide area networks (WANs), quality of service (QoS), security issues, network collaboration services. 2. OSI and TCP/IP models: idea and process of data encapsulation. 3. Application layer: protocols, services and applications, HTTP, DNS, DHCP, FTP, SMB, SMTP/POP, Telnet. 4. Transport layer: TCP and UDP protocols. 5. Network layer: concepts of IP addressing and routing, path determination, packet forwarding, ICMP protocol, static routing, dynamic routing protocols (RIP, OSPF). 6. Data link layer: data transmission over LAN and WAN networks, Ethernet, CSMA/CD, CSMA/CA 7. Physical layer: designing and cabling network, transmission media, wireless networks. 8. Computer networks : SSL, security policies, IPsec, cryptographic algorithms.
Learning outcomes:	<ol style="list-style-type: none"> 1. Introducing to fundamental networking concepts and technologies. 2. Developing the skills necessary to plan and implement small networks across a range of applications. 3. Introducing models used to plan and implement networks. 4. Understanding the “layered” approach to networks. 5. Introducing various network devices, network addressing schemes, the types of media used to carry data across the network and routing protocols.
Name of lecturer:	dr inż. Maciej Piechowiak, assistant professor

Contact (email address):	mpiech@ukw.edu.pl
Literature:	<ol style="list-style-type: none">1. C. Kittel, Introduction to the solid state, PWN, Warszawa, 1999.2. Phosphor Handbook. Ed. by Shigeo Shionoya, William M. Yen and Hajime Yamamoto, CRC press. NY. 2006.3. Inorganic Phosphors: Compositions, Preparation and Optical Properties, Ed. by William M. Yen, Marvin J. Weber, CRC Press, 2004.4. Fundamentals of Phosphors, Ed. by William M. Yen, Shigeo Shionoya and Hajime Yamamoto, Taylor and Francis, 2006.5. My lectures in form of pdf.presentations