STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Computer Network		**1010401131010330543**
Field of study	Profile of study (general academic, practical)	Year /Semester
EDUCATION IN TECHNOLOGY AND	**general academic**	**2 / 3**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**obligatory**
Cycle of study:	Form of study (full-time,part-time)	
First-cycle studies	**full-time**	
No. of hours		No. of credits
Lecture: **2** Classes: **-** Laboratory: **1** Project/seminars: **-**		**4**
Status of the course in the study program (Basic, major, other)	(university-wide, from another field)	
other	**university-wide**	
Education areas and fields of science and art		ECTS distribution (number and %**)**

Responsible for subject / lecturer:

dr inż. Andrzej Sikorski
email: andrzej.sikorski
tel. 6653958
Faculty of Electrical Engineering
ul. Piotrowo 3A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Electromagnetic waves properties, physical signalling Computer Science basics, including operating systems Basic knowledge of electronics
2	**Skills**	programming skills in any language (e.g. C,C#, java or Pascal) proficiency in basic engineer computation basics of algorithms and data structures
3	**Social competencies**	ability of knwoledge acquisition team work data privacy awareness

Assumptions and objectives of the course:

Knowledge and skills:
-architecture of computer networks (ISO-OSI model)
-properties of various transmission media types
-network programming in C++/C# both socket and component based
-internet appliacation programming on HTTP protocol level,including HTML generation
Network management tools
*properties and configuration of various network devices

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. ISO OSI reference model - [K_W15]
2. UNIX operating system - [K_W14]
3. C#/C++ programming languages and network intefaces - [K_W14]
4. TCP/IP concepts - [K_W15]

Skills:

1. TCP/IP networks administration - [K_U17]
2. virtual machine configuration and setup - [K_U17]
3. network application programming and deployment - [K_U11]

Social competencies:

Assessment methods of study outcomes
examination laboratory reports programming project tests and colloquium
Course description
The main emphasis of the course is on practical skills. The course includes knowledge of basic properties, theory, and technology of computer networks. The description of ISO -OSI reference model layers is given, including physical, link, network, transport and application layer. This model is presented in the TCP/IP and Internet context. The presentation concentrates on the practical impact of the model on the system and application software. The focus is on practical programming and network management/configuration. The practical skills include: -host and guest configuration on VM manager (VPC or Virtual Box) -network interfaces configuration -network application programming (socket, TCP/IP level) -internet application programming (HTTP, CSS3, HTML5)
Basic bibliography:
Additional bibliography:

Result of average student's workload

Activity	**Time (working hours)**
1. Lecture	30
2. Laboratory	15
3. Textbook study	15
4. Knowledge acquisition from various sources inccluding internet	15
5. Programming and software devlopment	10
6. VM and network configuration	5

Student's workload

Source of workload	**hours**	**ECTS**
Total workload	90	4
Contact hours	45	2
Practical activities	30	2