STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Internet Technologies and Services**		Code **1011102311011165283**
Field of study **Engineering Management - Full-time studies -**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 1**
Elective path/specialty **Quality Systems and Ergonomics**	Subject offered in: **Polish**	Course (compulsory, elective) **elective**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time) **full-time**	
No. of hours Lecture: **15** Classes: **15** Laboratory: **-** Project/seminars: **-**		No. of credits **2**
Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art **technical sciences**		ECTS distribution (number and %) **2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	First cycle study courses on computer science and information technology. Preferably this should include preliminary knowledge of HTML documents, programming language assignment and control instructions, being familiar with relational data bases.
2	**Skills**	Preferably: ability to prepare simple HTML documents, understand simple programs in structural programming language.
3	**Social competencies**	Interests in technologies that underlay everyday operation of network devices.

Assumptions and objectives of the course:

-The purpose of this course is twofold: to give students knowledge of core Internet technologies and to inroduce them to the concept of net services, from the early stages of client server programming to modern Web services paradigm. This may be regarded both as a self contained course or as a supporting or accompanying material to more applicative courses on E-business, Web page and Web applications design. The level of laboratory exercises vary depending on students experience and first cycle study curriculum.

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

Knowledge:

1. The students should know the Internet protocol stack architecture and understand the idea behind its layers. - [K2A_W08]
2. They should be able to characterize main Web design technologies and discuss their advantages and drawbacks. - [K2A_W09]
3. Students should describe the concepts of Web services and semantic Internet. - [K2A_W08]
4. Students should know basic cryptographic concepts and understand their role in the computer security technologies. - [K2A_W17]

Skills:

1. Student should be able to configure their network environment and to manage several type of connections between computer devices. - [K2A_U06]
2. They should diagnose and correct typical errors that appear while updating Websites on a server. - [K2A_U06]
3. They should specify interfaces between layers of Web applications. - [K2A_U06]

Social competencies:

1. Students should be aware of responsible use of the Internet applications and resources. - [K2A_K05 K2A_K06]

Assessment methods of study outcomes

-Practical tests in laboratories.

Oral presentations on key topics.

Course description

-Lectures:

The challenges of internetworking. TCP/IP protocol stack. The evolution of Web pages and Web applications. The Internet standards for Web design. XML and Web ontology. The concept of web services and supporting protocols. The cryptographical basis for network security.

-Laboratories:

Depending on students experience laboratory exercises provide more or less advanced illustrative material to lecture subjects. The main focus is on understanding web applications structure and operation.

Basic bibliography:

1. James F. Kurose, Keith W. Ross Computer Networking: A Top-Down Approach, Fifth Edition Pearson Education Inc.,
2. Luke Welling, Laura Thomson, PHP and MySQL Web Development (4th Edition) Sams Corporation
3. The Internet resources on Internet standards. The IBM and Microsoft documents on web services

Additional bibliography:

1. Kevin R. Fall, W. Richard Stevens, TCP/IP Illustrated, Volume 1: The Protocols (2nd Edition)
2. Eric A. Meyer Meyer on CSS. Mastering the language of Web Design Pearson Education Inc., New Riders Publishing 2003

Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	15
2. Attendance and active participation in laboratory exercises	15
3. Preparation for the final credits	15
4. Home assignments	5

Student's workload

Source of workload	hours	ECTS
Total workload	50	2
Contact hours	30	1
Practical activities	15	1