wmt	**SYLLABUS**	

Name of the subject in Polish:	**Administracja serwerami**	Subject code **ASE**
Name of the subject in English	Server administration	
Course of Study:	Technical and Computer Science Education Programme	
Level of studies:	Full-time studies / first-cycle, engineering programme	
Study Profile:	Practical	
Teaching institution:	THE KARKONOSZE STATE APPLIED SCIENCES UNIVERSITY IN JELENIA GÓRA FACULTY OF MEDICAL AND TECHNICAL SCIENCES	

I.   Types of classes, number of hours

Semester	Lecture	Practical	Laboratory	Project	Seminar	Total
VI	**15**		**30**			**45**
Form of crediting	exam		graded test			
No. of ECTS points	1		2			**3**

II.   Subject objective

C1	Getting to know the capabilities of modern operating systems and selected server services.
C2	Acquiring practical skills in terms of setting up selected server and network services.
C3	Acquiring skills associated with securing IT systems against threats.

III. Preliminary requirements in terms of knowledge, skills and other competences:

Credit for "Basics of computer science and IT systems".

IV. Expected learning outcomes:

Knowledge

EK1	Has knowledge that enables him/her to carry out basic administrative operations.

Skills

EK2	Has practical skills to carry out selected administrative operations in Microsoft Windows and Linux operating systems.
EK3	Knows how to set up selected server services.
EK4	Knows how to set up services and hardware in such a way as to gain remote access to server resources.

EK5	Knows how to set up services and software to secure the server and electronic communication against attacks.	
EK6	Is able to learn and solve problems unassisted, with the use of different sources of information.	

V. Curriculum:		
Form of classes: lecture		**Number of hours**
Lec1	Introduction to the topic of the subject. Description of the thematic scope of the classes, their organisation and rules for crediting.	1
Lec 2	The Linux operating system – the methods of user, group and privilege management.	1
Lec 3	Sharing of resources with the SMB protocol and Samba software.	1
Lec4	The HTTP protocol – operation, methods, headers, and status codes. HTTP servers – introduction.	1
Lec5	The Apache HTTP Server – general information, administration methods with the use of configurable files and directives, event logs.	1
Lec6	The Apache HTTP Server – virtual host setup methods.	1
Lec7	The Apache HTTP Server – URL address translation with the use of the mod_rewrite module.	1
Lec8	The Apache HTTP Server – securing communication with the use of the SSL protocol.	1
Lec9	Database servers – security mechanisms.	1
Lec10	Database servers – data replication.	1
Lec11	Mail servers – protocols, operation, setup methods.	1
Lec12	Network server security – firewalls, intrusion detection systems (IDS).	2
Lec13	Network address translation (NAT). Virtual private networks (VPN).	1
Lec14	Review and preparation for the exam.	1
Total hours		**15**
Form of classes: laboratory		**Number of hours**
Lab1	Introduction to the Linux operating system.	2
Lab2	The Linux system – user and privilege management.	2
Lab3	File and printer sharing, Samba software.	2
Lab4	The HTTP protocol, basic Apache server setup.	2
Lab5	The Apache HTTP Server – event logs.	2
Lab6	The Apache HTTP Server – directives and virtual hosts.	2
Lab7	The Apache HTTP Server – the mod_rewrite URL address translation module.	2
Lab8	The Apache HTTP Server – the SSL protocol.	2

Lab9	Database servers – security.	2
Lab10	Database servers – data replication.	2
Lab11	Mail server – basic setup.	2
Lab12	Server security – firewalls.	2
Lab13	Server security – firewalls and intrusion detection systems (IDS).	2
Lab14	Network address translation (NAT) service. Virtual private networks (VPN).	2
Lab15	Giving credits and final grades.	2
Total hours – laboratory		**30**

VI. Educational tools

N1	Work stations in computer labs – equipped with an operating system, virtual environments and other software required to conduct practicals.
N2	The e-learning system – publishing educational materials and notices, collecting students' solutions to listed tasks.
N3	A multimedia presentation delivered by the teacher with the use of a mobile computer and a projector.
N4	Practical workshops – a live demonstration of the methods of setting up systems and services, tasks conducted by students, as instructed, ongoing assistance by the teacher.
N5	Individual consultation during lessons – concerning practical solutions of tasks within the subject.

VII. Ways of assessment (F – formative, P – summative)

F1	Exercise task lists – sets of relatively easy tasks that can be completed during educational classes, spanning 2 teaching lessons. For the completion of every task list, the teacher gives an F1 grade to the student – depending on the scope, quality, self-sufficiency and pace of work.
F2	Exam – a written test to evaluate the knowledge and skills provided during lectures. A positive grade is given, if the student acquired at least 50% of all possible points.
P1	Final grade for laboratory classes is determined based on the total of F1 points obtained by the student from all task lists. A positive P1 grade is given to a student who has successfully completed all task lists and obtained in total at least 50% of all possible points as part of F1 grades.
P2	The final grade for the P2 lecture is calculated with the use of 50% of the F2 exam grade and 50% of the P1 final grade for laboratory classes. The P2 final grade is positive when its both components – grades for the exam and laboratory classes – are positive.

Literature

Main literature:
1. Canonical Ltd., Ubuntu Server Guide. Oficjalna dokumentacja, https://help.ubuntu.com, 2013.
2. Microsoft, Books On-Line. Dokumentacja elektroniczna systemu MS SQL Server, http://msdn.microsoft.com, 2013.
3. Postfix. Oficjalny serwis, http://www.postfix.org.
4. Szychowiak M.., Bezpieczeństwo systemów komputerowych. Kurs e-learning, http://wazniak.mimuw.edu.pl, 2006.
5. The Apache Software Foundation, Apache HTTP Server Documentation. Oficjalna dokumentacja, http://httpd.apache.org/docs/, 2013.

Supplementary literature:
1. Bowen R., Coar K., Apache. Receptury. Helion, Gliwice 2009.
2. Cole E., Krutz R.L., Conley J., Bezpieczeństwo sieci. Biblia. Helion, Gliwice 2005.
3. Hildebrandt R., Koetter P., Postfix. Nowoczesny system przesyłania wiadomości. Helion, Gliwice 2006.
4. Mendrala D., Potasiński P., Szeliga M., Widera D., Serwer SQL 2008. Administracja i programowanie. Helion, Gliwice 2009.
5. Sosna Ł., Apache 2.0 dla Windows. Ćwiczenia. Helion, Gliwice 2003.
6. Szmit M., Gusta M., Tomaszewski M., 101 zabezpieczeń przed atakami w sieci komputerowej. Helion, Gliwice 2005.