Zał. nr 4 do ZW 64/2012

FACULTY OF COMPUTER SCIENCE AND MANAGEMENT

SUBJECT CARD

Name in Polish	**Administrowanie serwerami Linux (GK)**
Name in English	**Administering Linux Servers**
Main field of study (if applicable):	**Computer Science**
Specialization (if applicable):	**-**
Level and form of studies:	**1st level, full-time**
Kind of subject:	**optional**
Subject code	**…….**
Group of courses	**YES**

	Lecture	Classes	Laboratory	Project	Seminar
Number of hours of organized classes in University (ZZU)	30		30		
Number of hours of total student workload (CNPS)	60		60		
Form of crediting	Crediting with grade		Crediting		
For group of courses mark (X) final course	X				
Number of ECTS points	2		2		
including number of ECTS points for practical (P) classes	0		2		
including number of ECTS points for direct teacher-student contact (BK) classes	1,2		1,2		

*delete as applicable

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Knowledge about the principles of modern operating systems.
2. Knowledge about the principles of computer networks based on the TCP / IP protocol suite.

SUBJECT OBJECTIVES

C1. Acquiring basic knowledge and practical skills in the Linux server and user's workstation administration.

C2. Acquiring basic knowledge and practical skills in the administration of network infrastructure and network services using the Linux system.

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge a student:

PEK_W01 - acquires basic knowledge in the administration of Linux server and workstation and basic knowledge in the administration of network infrastructure and network services using Linux.

relating to skills:

PEK_U01 - acquires practical skills in the administration of Linux server and workstation and basic knowledge in the administration of network infrastructure and network services using Linux.

PROGRAMME CONTENT

Form of classes - lecture		**Number of hours**
Lec 1	Distributions of the Linux system. System architecture. System installation.	2
Lec 2	Text console: shells, basic commands, scripts.	2
Lec 3	User and group account management.	2
Lec 4	Disks and file system management.	2
Lec 5	Data compression. Backup. Scheduling of administrative tasks.	2
Lec 6	System update. Installing, updating and uninstalling additional software. Use of installation packages.	2
Lec 7	Printing in Linux. Graphic environment - X Window.	2
Lec 8	Managing network connections. Routing.	2
Lec 9	Firewalls and network traffic management.	2
Lec 10	Configuration and management of DHCP and DNS servers.	2
Lec 11	Configuration and management of the file server (NFS, Samba, FTP).	2
Lec 12	Configuration and management of the web server. Content management systems (CMS).	2
Lec 13	Virtualization in Linux systems.	2
Lec 14	Securing the server. Remote system administration. The knowledge test (1 term).	2
Lec 15	Configuration and management of the email server. The knowledge test (2 term).	2
	Total hours	**30**

Form of classes - laboratory		Number of hours
Lab 1	Introduction to the laboratory. OSH training.	2
Lab 2	Installation of the Linux system.	2
Lab 3	Text console: shells, basic commands, scripts.	2
Lab 4	Practical management of accounts and user groups.	2
Lab 5	Practical disk and file system management.	2
Lab 6	Performing data compression. Backing up and recovering data. Operations scheduling.	2
Lab 7	System upgrade, installation, upgrade and uninstallation of additional software using installation packages and software repositories.	2
Lab 8	Configuring printing in the Linux environment. Graphic environment - X Window. Practical test - Management of the server and workstation operating system.	2
Lab 9	Managing network connections. Routing.	2
Lab 10	Firewalls and network traffic management.	2
Lab 11	Configuration and management of DHCP and DNS servers.	2
Lab 12	Configuration and management of the file server (NFS, Samba, FTP).	2
Lab 13	Configuration and management of the web server. Content management systems (CMS).	2
Lab 14	Configure and run virtual machines on Linux systems. Securing the server. Remote system administration.	2
Lab 15	Practical test - Management of the network infrastructure and network services.	2
	Total hours	30

TEACHING TOOLS USED
N1. Traditional lecture. N2. Laboratories with full administrative access to Linux systems. N3. Consultations for students. N4. Own work - preparation for laboratories. N5. Own work - learning of theoretical foundations.

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

Evaluation (F – forming (during semester), C – concluding (at semester end)	Educational effect number	Way of evaluating educational effect achievement
F1	PEK_W01	Test of theoretical knowledge (max 50% of points).
F2	PEK_U01	Practical test - Management of the server and workstation operating system (max 25% of points).
F3	PEK_U01	Practical test - Management of the network infrastructure and network services. (max 25% of points).
C		To get credit for this group of courses (pass), a student should be given more than half of the points for the theoretical test (F1 > 25%) and over half of the points possible to get on both practical tests (F2 + F3 > 25%). The student's absences may constitute the grounds for not crediting the course. The number of student's absence must not exceed the limit given by the lecturer. If the above are met, then the grading scale is as follows: The sum of points in percent P = F1 + F2 + F3. Range P : Grade 100 - 91%: 5.0 (very good) 90 - 81%: 4.5 (good plus) 80 - 71%: 4.0 (good) 70 - 61%: 3.5 (satisfactory plus) 60 - 51%: 3.0 (satisfactory) 50 - 0%: 2.0 (unsatisfactory)

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

[1] William E. Shotts, Jr., Linux Command Line, No Starch Press, 2012.

[2] Osamu Aoki, Debian Reference, https://www.debian.org/doc/manuals/debian-reference/, Retrieved 2018.

[3] Raphaël Hertzog & Roland Mas, https://debian-handbook.info/, Retrieved 2018.

SECONDARY LITERATURE:

[4] Brian Ward, How Linux Works, What Every Superuser Should Know, No Starch Press, Second edition, 2014.

SUBJECT SUPERVISOR (NAME AND SURNAME, E-MAIL ADDRESS)

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR SUBJECT
Administering Linux Servers
AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY
Computer Science
AND SPECIALIZATION ……..

Subject educational effect	Correlation between subject educational effect and educational effects defined for main field of study and specialization (if applicable)**	Subject objectives***	Programme content***	Teaching tool number***
PEK_W01 (knowledge)	K1INF_W09	C1, C2	Lec 1-15	N1,3,5
PEK_U01 (skills)	K1INF_U21	C1, C2	Lab 1-15	N2,3,4

** - enter symbols for main-field-of-study/specialization educational effects
*** - from table above