

FACULTY W-8 / DEPARTMENT Informatics.....					
SUBJECT CARD					
Name in Polish Systemy Operacyjne					
Name in English Operating Systems					
Main field of study (if applicable):					
Specialization (if applicable):					
Level and form of studies: 1st level, full-time					
Kind of subject: obligatory					
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)	90		60		
Form of crediting	examination		crediting with grade		
For group of courses mark (X) final course	X				
Number of ECTS points	3		2		
including number of ECTS points for practical (P) classes			2		
including number of ECTS points for direct teacher-student contact (BK) classes	1,8		1,2		

*delete as applicable

PREREQUISITES RELATING TO KNOWLEDGE, SKILLS AND OTHER COMPETENCES

1. Basic knowledge of computer systems
2. Basic knowledge of programming languages

SUBJECT OBJECTIVES

C1 Students have knowledge of theoretical and practical aspects of operating systems
 C2 Students have practical skills of programming at shell level and system functions level in Linux operating system environment

SUBJECT EDUCATIONAL EFFECTS

relating to knowledge:

PEK_W01 students know the general principles of using operating systems
 PEK_W02 students know the general principles of programming in the LINUX
 PEK_W03 students know the Basic functions of operating system Linux, enabling to create system software in C language

relating to skills:

PEK_U01 students have the skill of self learning in the aim of the lifting professional skills
 PEK_U02 students are able to gain information from various sources
 PEK_U03 students are able to define software problems, and then finding solution, using suitable programming tools

relating to social competences:

PEK students understand the need of continuous education

PROGRAMME CONTENT		
Form of classes - lecture		Number of Hours
Lec 1	Operating system organization, structures and functions	2
Lec 2	Evolving of operating systems, different classes of operating systems	2
Lec 3	Unix Shell programming	4
Lec 4	Process and threads	2
Lec 5	Process scheduling	2
Lab 6	Inter process Communications (IPC)	4
Lec 7	Deadlock problem solving	2
Lec 8	Memory management, real and virtual memory	2
Lec9	File systems. Files and directories	2
Lec10	File management systems	2
Lec11	Input/output operations in operating system	2
Lec12	Operating systems in network environment	2
Lec13	Case studies of Unix and Windows operating system	2
	Total hours	30
Form of classes - class		Number of hours
Cl 1		
Cl 2		
Cl 3		
Cl 4		
..		
	Total hours	
Form of classes - laboratory		Number of hours
Lab1	Introduction to work in Linux operating system	2
Lab2	Creation of user environment	2
Lab3	Selected system commands	2
Lab4	Operations on files and directories	4
Lab5	Programming in Bash command interpreter	4
Lab6	Text data processing (grep, awk)	4
Lab7	Processes in operating system – creation, mechanism of fork/exec	6
Lab8	Interprocess communications in Linux	6
	Total hours	30
Form of classes - project		Number of hours
Proj1		
Proj2		
Proj3		
Proj4		

...		
	Total hours	
Form of classes - seminar		Number of hours
Sem1		
Sem2		
Sem3		
...		
	Total hours	

TEACHING TOOLS USED

N1.The lecture – the traditional method
N2.Consultations
N3.Practical exercises at computer laboratory

EVALUATION OF SUBJECT EDUCATIONAL EFFECTS ACHIEVEMENT

Evaluation (F – forming (during semester), P – concluding (at semester end))	Educational effect number	Way of evaluating educational effect achievement
F1Laboratory		Presentation of programming work, oral explanation
F2Laboratory		Presentation of programming work, oral explanation
P Lecture		Final test

C

PRIMARY AND SECONDARY LITERATURE

PRIMARY LITERATURE:

- [1] Silberschatz A., Operating System Concepts, Addison-Wesley, 2005
- [2] Stallings W., Operating Systems: Internal and Design Principles, Inc. Pearson Prentice Hall, 2005
- [3] Nutt G., Operating Systems, Pearson Education, 2004
- [4]

SECONDARY LITERATURE:

- [1] Jay A., Burns T., Unix Shell Programming, Wiley & Sons, 1998
- [2] Love R., Linux System Programming, O'Reilly Media, 2007
- [3]

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

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MATRIX OF CORRELATION BETWEEN EDUCATIONAL EFFECTS FOR
SUBJECT
Operating Systems
AND EDUCATIONAL EFFECTS FOR MAIN FIELD OF STUDY
.....
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_W10	C1, C2	Lec 1-4	N 1-3
PEK_W02	K1INF_04, K1INF_10	C1, C2	Lec 4-13	N 1-3
PEK_W03	K1INF_10	C1, C2	Lec 4-13	N 1-3
PEK_U01 (skills)	K1INF_U04, K1INF_U05	C2	Lec 1-13	N 1-3
PEK_U02	K1INF_U05, K1INF_U11	C1, C2	Lec 1-13	N 1-3
PEK_U03	K1INF_U12, K1INF_U14	C1, C2	Lec 1-13	N 1-3
PEK_K01 (competences)	K1INF_K01, K1INF_U05	C1, C2	Lec 1-13	N 1-3
PEK_K02				

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

*** - from table above