Zał nr 4 do ZW

Faculty of Fundamental Problems of Technology

COURSE CARD

Name in polish	:	**Zastosowania Metod Stochastycznych dla Bezpieczeństwa i Ochrony Prywatności**
Name in english	:	**Applied Stochastics with Applications for Security and Privacy**
Field of study	:	Computer Science
Specialty (if applicable)	:	
Undergraduate degree and form of	:	masters, stationary
Type of course	:	optional
Course code	:	E2_W15
Group rate	:	Yes

	Lectures	Exercides	Laboratory	Project	Seminar
Number of classes held in schools (ZZU)	30	30			
The total number of hours of student workload (CNPS)	60	120			
Assesment	pass				
For a group of courses final course mark	X				
Number of ECTS credits	3	3			
including the number of points corresponding to the classes of practical (P)		3			
including the number of points corresponding occupations requiring direct contact (BK)	3	3			

PREREQUISITES FOR KNOWLEDGE, SKILLS AND OTHER POWERS

COURSE OBJECTIVES

C1

C2

COURSE LEARNING OUTCOMES

The scope of the student's knowledge:

W1

W2

W3

W4

W5

W6

The student skills:

U1

U2

U3

U4

U5

The student's social competence:

K1

COURSE CONTENT

Type of classes - lectures		
Wy1	stochastic processes, Markov chains	4h
Wy2	rapid mixing of Markov chains	4h
Wy3	anonymous communication protocols, mix nets	4h
Wy4	random graphs and random walks	4h
Wy5	security systems based on random walk paradigm	2h
Wy6	self-stabilizing and self-organizing systems	4h
Wy7	branching processes, percolation and virus propagation	4h
Wy8	random functions and sets	4h
Type of classes - exercises		
Ćw1	stochastic processes, Markov chains	4h
Ćw2	rapid mixing of Markov chains	4h
Ćw3	anonymous communication protocols, mix nets	4h
Ćw4	random graphs and random walks	4h
Ćw5	security systems based on random walk paradigm	2h
Ćw6	self-stabilizing and self-organizing systems	4h
Ćw7		4h
Ćw8	random functions and sets	4h

Applied learning tools
1. Traditional lecture 2. Multimedia lecture 3. Solving tasks and problems 4. Consultation 5. Self-study students

EVALUATION OF THE EFFECTS OF EDUCATION ACHIEVEMENTS		
Value	Number of training effect	Way to evaluate the effect of education
F1	W1-W6, K1-K1	
F2	U1-U5, K1-K1	
P=%*F1+%*F2		

BASIC AND ADDITIONAL READING
1. 2. 3. 4.

SUPERVISOR OF COURSE
prof. Mirosław Kutyłowski

RELATIONSHIP MATRIX EFFECTS OF EDUCATION FOR THE COURSE
Applied Stochastics with Applications for Security and Privacy
WITH EFFECTS OF EDUCATION ON THE DIRECTION OF COMPUTER SCIENCE

Course training effect	Reference to the effect of the learning outcomes defined for the field of study and specialization (if applicable)	Objectives of the course**	The contents of the course**	Number of teaching tools**
W1	K2_W01 K2_W02 K2_W05	C1	Wy1-Wy8	1 2 4 5
W2	K2_W01 K2_W02 K2_W03 K2_W04 K2_W05	C1	Wy1-Wy8	1 2 4 5
W3	K2_W01 K2_W02 K2_W04 K2_W05	C1	Wy1-Wy8	1 2 4 5
W4	K2_W01 K2_W02 K2_W04 K2_W05	C1	Wy1-Wy8	1 2 4 5
W5	K2_W01 K2_W02 K2_W04 K2_W05	C1	Wy1-Wy8	1 2 4 5
W6	K2_W01 K2_W02 K2_W04 K2_W05	C1	Wy1-Wy8	1 2 4 5
U1	K2_U01 K2_U03 K2_U09 K2_U12 K2_U13 K2_U14 K2_U15 K2_U16 K2_U19 K2_U21	C2	Ćw1-Ćw8	3 4 5
U2	K2_U01 K2_U09 K2_U10 K2_U12 K2_U13 K2_U14 K2_U15 K2_U16	C2	Ćw1-Ćw8	3 4 5
U3	K2_U01 K2_U03 K2_U09 K2_U10 K2_U11 K2_U12 K2_U13 K2_U14 K2_U15 K2_U16	C2	Ćw1-Ćw8	3 4 5
U4	K2_U01 K2_U03 K2_U09 K2_U10 K2_U12 K2_U13 K2_U14 K2_U15 K2_U16	C2	Ćw1-Ćw8	3 4 5
U5	K2_U01 K2_U03 K2_U08 K2_U09 K2_U10 K2_U11 K2_U12 K2_U13 K2_U14 K2_U16 K2_U18 K2_U19	C2	Ćw1-Ćw8	3 4 5
K1	K2_K01 K2_K04 K2_K05 K2_K10 K2_K12 K2_K13 K2_K14	C1 C2	Wy1-Wy8 Ćw1-Ćw8	1 2 3 4 5