Faculty of Fundamental Problems of Technology

COURSE CARD

Name in polish	:	**Systemy Identyfikacyjne**
Name in english	:	**Identification Systems**
Field of study	:	Computer Science
Specialty (if applicable)	:	
Undergraduate degree and form of	:	masters, stationary
Type of course	:	optional
Course code	:	E2_W25
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 presentation of identification techniques with personal identity documents, biometric methods

C2 getting skills in designing solutions based on identity documents and biometrics

COURSE LEARNING OUTCOMES

The scope of the student's knowledge:

W1 knows technical details related to electronic identity cards

W2 knows technical details related to biometric identification

W3 understands mechanisms of errors in biometric identification procedures

W4 knows how to protect personal data

W5 knows the modern techniques of monitoring and anomaly detection by sensor systems

The student skills:

U1 is able to design and implement an application using electronic ID cards

U2 is able to design and implement an application using biometric readers

U3 is able to analyse the risk of personal data leakage

U4 is able to design a system storing and proceeding confidential data

The student's social competence:

K1 is able to design/modify a solution to make it well suited to the economical/cultural environment

K2 follows the rules of personal data protection

K3 is able to train users of identification systems

COURSE CONTENT

Type of classes - lectures		
Wy1	electronic identification documents	8h
Wy2	graphical protection of identification documents	2h
Wy3	overview of biometric systems	4h
Wy4	reliability issues for biometric systems	6h
Wy5	protection of biometric data	6h
Wy6	physical monitoring based on identification systems	4h
Type of classes - exercises		
Ćw1	protocol analysis of protocols for electronic identification documents	4h
Ćw2	design of applications based on electronic identity documents	6h
Ćw3	analysis of biometrics	4h
Ćw4	design of solutions based on biometric methods	6h
Ćw5	management of sensitive information	6h

Applied learning tools
1. Traditional lecture 2. Multimedia lecture 3. Solving tasks and problems 4. Solving programming tasks 5. Consultation 6. Self-study students

EVALUATION OF THE EFFECTS OF EDUCATION ACHIEVEMENTS		
Value	Number of training effect	Way to evaluate the effect of education
F1	W1-W5, K1-K3	final test
F2	U1-U4, K1-K3	short tests, tasks assignments
P=50%*F1+50%*F2		

BASIC AND ADDITIONAL READING
1. BSI TR-03110 Advanced Security Mechanisms for Machine Readable Travel Documents 2. Bindings:Guide to Biometrics. Ruud M. Bolle, Jonathan H. Connell, Sharath Pankanti, Nalini K. Ratha, Andrew W. Senior, ISBN: 1441923055

SUPERVISOR OF COURSE
dr Przemysław Kubiak

RELATIONSHIP MATRIX EFFECTS OF EDUCATION FOR THE COURSE
Identification Systems
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_W04_B K2_W05 K2_W06 K2_W07 K2_W08 K2_W09	C1	Wy1-Wy6	1 2 5 6
W2	K2_W01 K2_W02 K2_W04_B K2_W05 K2_W06 K2_W07 K2_W08 K2_W09	C1	Wy1-Wy6	1 2 5 6
W3	K2_W01 K2_W02 K2_W04_B K2_W05 K2_W06 K2_W08 K2_W09	C1	Wy1-Wy6	1 2 5 6
W4	K2_W01 K2_W02 K2_W04_B K2_W05 K2_W07 K2_W08 K2_W09 K2_W11	C1	Wy1-Wy6	1 2 5 6
W5	K2_W01 K2_W02 K2_W04_B K2_W05 K2_W06 K2_W07 K2_W08 K2_W09	C1	Wy1-Wy6	1 2 5 6
U1	K2_U01_B K2_U02 K2_U03_B K2_U08_B K2_U09_B K2_U10 K2_U12_B K2_U15 K2_U16 K2_U17 K2_U18_B K2_U19_B K2_U20 K2_U21_B	C2	Ćw1-Ćw5	3 4 5 6
U2	K2_U01_B K2_U02 K2_U03_B K2_U08_B K2_U09_B K2_U10 K2_U12_B K2_U15 K2_U16 K2_U17 K2_U18_B K2_U19_B K2_U20 K2_U21_B	C2	Ćw1-Ćw5	3 4 5 6
U3	K2_U01_B K2_U03_B K2_U08_B K2_U09_B K2_U10 K2_U12_B K2_U13 K2_U14 K2_U15 K2_U16 K2_U18_B K2_U19_B K2_U21_B	C2	Ćw1-Ćw5	3 4 5 6
U4	K2_U01_B K2_U02 K2_U09_B K2_U12_B K2_U15 K2_U16 K2_U17 K2_U18_B K2_U19_B K2_U20 K2_U21_B K2_U22_B	C2	Ćw1-Ćw5	3 4 5 6
K1	K2_K01_B K2_K03 K2_K04 K2_K05 K2_K10 K2_K14_B K2_K15 K2_K16 K2_K17	C1 C2	Wy1-Wy6 Ćw1-Ćw5	1 2 3 4 5 6
K2	K2_K03 K2_K04 K2_K07 K2_K09 K2_K10 K2_K14_B K2_K15 K2_K16 K2_K17	C1 C2	Wy1-Wy6 Ćw1-Ćw5	1 2 3 4 5 6
K3	K2_K01_B K2_K02 K2_K03 K2_K04 K2_K05 K2_K10 K2_K14_B K2_K15 K2_K16 K2_K17	C1 C2	Wy1-Wy6 Ćw1-Ćw5	1 2 3 4 5 6