

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>(-)</b>		Code <b>1010332431010337272</b>
Field of study <b>Information Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>2 / 3</b>
Elective path/specialty <b>Safety of Computer Systems</b>	Subject offered in: <b>polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: <b>1</b> Classes: <b>-</b> Laboratory: <b>2</b> Project/seminars: <b>-</b>		No. of credits <b>5</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b>		ECTS distribution (number and %) <b>100 5%</b>
<b>Responsible for subject / lecturer:</b>  dr hab. inż. Janusz Stokłosa, prof. nadzw. email: janusz.stoklosa@put.poznan.pl tel. +48 61 665 37 57 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Student has an expanded and enhanced knowledge of selected math topics. He/she has in-depth knowledge in the field of data security.
2	<b>Skills</b>	Student is able to use powerful tools and information technologies.
3	<b>Social competencies</b>	Student understands the need to provide public information concerning the achievements in computer science and other aspects of business-computing engineer; he/she shall endeavour to provide information in a way understandable by presenting different points of view.
<b>Assumptions and objectives of the course:</b> The aim of the course is to make known students with identification and authentication issues.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b> 1. Student has in-depth knowledge of cryptography and cryptanalysis. - [[K_W11]]		
<b>Skills:</b> 1. Student can - in formulating and solving computer problems - to integrate knowledge from different fields and disciplines. - [K_U07]		
<b>Social competencies:</b> 1. Student is able to think and act in a way that is creative and enterprising. - [K_K01]		
<b>Assessment methods of study outcomes</b>		
Written or/and oral examination based on lecture. Laboratory: written test.		
<b>Course description</b>		
Lecture: Authentication and Biometrics, The Common Biometrics, Additional Biometrics, Basic System Errors, Identification System Errors, Performance Testing, Selecting a Biometric. Laboratory: measurement of performance and the factors involved in choosing between different biometrics, recognition accuracy, total cost of ownership, acquisition and processing speed, intrinsic and system security.		

<b>Basic bibliography:</b>		
1. Guide to Biometrics, R.M. Bolle, J.H. Connell, S. Pankanti, N.K. Ratha, A.W. Senior, Springer Science, 2004		
<b>Additional bibliography:</b>		
1. Biometrics: Personal Identification in Networked Society, Anil K. Jain, Ruud M. Bolle, Sharath Pankanti, Springer, 1999.		
2. Handbook of Fingerprint Recognition, D. Maltoni, Springer, 2003.		
<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Lecture	30	
2. Laboratory	15	
3. Preparation to the laboratory	15	
4. Realization of laboratory reports	10	
5. Preparation to tests	10	
6. Preparation to the examination	35	
7. Participation in the consultations and examination	10	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	125	5
Contact hours	50	2
Practical activities	25	1