Poznan University of Technology

Faculty of Electrical Engineering

European **C**redit **T**ransfer **S**ystem

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject **Data security**		Code **1010334491010330124**
Field of study **Information Engineering**	Profile of study (general academic, practical) **(brak)**	Year /Semester **5 / 9**
Elective path/specialty **Safety of Computer Systems**	Subject offered in: **polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**	

No. of hours				No. of credits
Lecture: **-** Classes: **-** Laboratory: **8**		Project/seminars: **8**		**3**
Status of the course in the study program (Basic, major, other) **(brak)**		(university-wide, from another field) **(brak)**		
Education areas and fields of science and art **technical sciences**				ECTS distribution (number and %**)** **3 100%**

Responsible for subject / lecturer:

dr inż. Anna Grocholewska-Czuryło
email: anna.grocholewska-czurylo@put.poznan.pl
tel. 61-665 35 31
Wydział Elektryczny
ul. Piotrowo 3A 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Has structured knowledge based on a theoretical foundation in the area of basic algorithms and their analysis, algorithm design techniques, abstract data structures and their implementation, computationally hard problems. Has structured knowledge based on a theoretical foundation in the area of network technologies and data protection basics.
2	**Skills**	Is able to search for information in literature, databases and other sources; is able to integrate acquired information, interpret it, draw conclusions and formulate and argument opinions.
3	**Social competencies**	Is able to construct algorithms using basic algorithmic techniques and analyse their complexity.

Assumptions and objectives of the course:

The goal of the course is to broaden the ability to apply data protection methods in information systems.

Study outcomes and reference to the educational results for a field of study
Knowledge:
1. Has structured knowledge based on a theoretical foundation in the area of data protection and information systems security. - [-]
Skills:
1. Is able to apply appropriate data protection methods and ensure security of the information system. - [-]
Social competencies:
1. Is aware of the importance of professional behaviour, following professional ethics and respecting diverse views and cultures. - [-]

Assessment methods of study outcomes
Laboratory class with scoring based on presence record, performed exercises, quality of reports and final test. Pozject is scored based on presence record, project work and project documentation.
Course description

Laboratory classes:

Block cipher design. Block ciphers cryptanalysis. Asymmetric cryptography. Steganography. SSH and PGP. Digital certificates.

Project:

Executing a project in the field of data security.

Basic bibliography:

1. Bezpieczeństwo danych w systemach informatycznych, Stokłosa J., Bilski T., Pankowski T., Wydawnictwo Naukowe PWN, Warszawa-Poznań, 2001

2. Wprowadzenie do kryptografii (Introduction to Cryptography), Buchmann J. A., Wydawnictwo Naukowe PWN (Springer), Warszawa (New York), 2006 (2004)

3. Ochrona danych i zabezpieczenia w systemach teleinformatycznych, Stokłosa J. (red.), Wydawnictwo Politechniki Poznańskiej, Poznań, 2005

Additional bibliography:

1. Kryptografia (Cryptography. Theory and Practice), Stinson D.R., WNT (CRC Press), Warszawa (Boca Raton), 2005 (1995)

2. Kryptografia w praktyce, Ferguson N., Schneier B., Helion, Gliwice, 2004

3. Firewalle i bezpieczeństwo w sieci, Chestwick W. R. , Bellovin S.M. , Rubin A.D., Helion, Gliwice, 2003

4. Kryptologia. Budowa i łamanie zabezpieczeń, Wobst R., Wydawnictwo RM, Warszawa, 2002

Result of average student's workload

Activity	Time (working hours)
1. Participating in project classes	8
2. Participating in laboratory classes	8
3. Practical preparation for laboratory classes	13
4. Preparing laboratory classes reports	18
5. Executing a project	30
6. Participating in consulting meetings	8

Student's workload

Source of workload	hours	ECTS
Total workload	85	3
Contact hours	35	1
Practical activities	75	3