FIŞA DISCIPLINEI

Denumirea disciplinei :		Information Security			
Codul disciplinei:					
Domeniul:		Computer Engineering and Information Technology			
Specializarea:		Advanced Computing Systems - master			
Catedra:		Computer Science and Automatic Control			
Facultatea:		"Hermann Oberth" Faculty of Engineering			
Universitatea:		„Lucian Blaga" University of Sibiu			
Anul de studiu**:**	1	Semestrul	2	Tipul de evaluare finală	**Exam**
Regimul disciplinei (DI=obligatorie/ DO=opţională/DF=liber aleasă):			**DF**	Numărul de credite:	**10**
Categoria formativă a disciplinei (DF=fundamentală.; DI=inginereşti; DS=specialitate; DC=complementară)					**DI**
Total ore din planul de învăţământ		**4**		Total ore pe semestru:	56
Titularul disciplinei: Assoc. Prof. PhD. Macarie BREAZU					

Numărul total de ore (pe semestru) din planul de învăţământ					
Total ore/ semestru	**C**	**S**	**L**	**P**	**Total**
	28	**0**	**28**	**0**	**56**

Obiective:	The students should understand the threats to information systems' security and the state-of-the-art theoretical and practical solutions available to reduce/resolve these threats.
Competenţe specifice disciplinei	**1. Cunoaştere şi înţelegere:** • knowledge and understanding of general principles of discipline • knowledge and proper operation of discipline-specific advanced concepts • ability to integrate knowledge gained from other areas • ability to integrate specific sources of information
	2. Explicare şi interpretare: • critical analysis of theoretical models, ideas and traditional approaches • skills to develop a project and complete a report on it • improving teamwork
	3. Instrumental – aplicative: • knowledge of and proficiency in state-of-the-art tools • application design on different levels • usage of a variety of strategies, methods, techniques for design, implementation and evaluation

	4. Atitudinale: • developing of a positive attitudes towards research • appreciation of teamwork, responsibility for the team's results • developing of a positive attitude towards (the need for validation of the theoretical aspects by) a practical application • awareness of the need to participate in their own professional and scientific development

Conţinutul tematic (descriptori)	**TEMATICA CURSURILOR**		
	Nr. crt.	Denumirea temei	Nr. ore
	1	Introduction. Information systems' security problem. Threats.	2
	2	Private key cryptography. Algorithms.	2
	3	Public key cryptography. Algorithms.	3
	4	Encrypted communication protocols. Implementation methods.	2
	5	Digital signatures. Properties, implementation methods.	2
	6	Operating systems facilities specific to protection and security.	3
	7	Authentication protocols.	2
	8	Internet service security.	4
	9	Providing security by an intrusion detection system.	2
	10	Attacks from inside and from outside the system. Viruses.	2
	11	Case studies: security features in Windows and Unix.	4
	TEMATICA LABORATOARELOR		
	1.	Installation and configuration of the SSL protocol.	2
	2.	Implementing digital signature by using a cryptographic library.	6
	3.	Design and implementation of a simple firewall application.	10
	4.	Installation and testing of an IDS.	2
	5.	Well known vulnerabilities and their solutions in Windows	4
	6.	Well known vulnerabilities and their solutions in Linux	4

Metode de predare / seminarizare	`Lectures, explanations, conversations, demonstrations, case studies, exercises, debates`

Stabilirea notei finale (procentaje)	- răspunsurile la examen/colocviu(evaluare finală)	60%
	- teste pe parcursul semestrului	
	- răspunsurile finale la lucrările practice de laborator	40%
	- activitaţi gen teme/referate/eseuri/traduceri/proiecte etc.	
	- teme de control	
	- alte activităti*(precizaţi)*……..	
	- TOTAL	100%

Final evaluation will consist in written exam (descriptive subjects and problems).	
Cerinţe minime pentru nota 5 Minimum grade 5.00 at labs Minimum grade 4.50 at final exam	**Cerinţe pentru nota 10** Weighted average grade minimum 9.50

TOTAL ore studiu individual (pe semestru) = 70

Bibliografia	**Minimală obligatorie**: 1. Mark Stamp, "*Information Security: Principles and Practice*", ISBN 978-0471738480, Wiley-Interscience, 2005 2. Andrew Tanenbaum, "*Modern Operating Systems*", 2nd Edition, ISBN 978-0130313584, Prentice Hall, 2001 3. Bruce Schneier, "*Applied Cryptography*", Second Edition, ISBN 0-471-11709-9, John Wiley & Sons, 1996 **Complementară:** 1. Abraham Silberschatz, Peter Baer Galvin, Greg Gagne, "Operating System Concepts", ISBN 0-471-25060-0, John Wiley & Sons, 2003
Lista materialelor didactice utilizate în procesul de predare: Curse notes, bibliographic list, video projector, Internet access	

	Grad didactic, titlul, prenume, numele	Semnătura
Coordonator de Disciplină	Assoc. Prof. PhD. Macarie BREAZU	