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Course Profile - Department of Information Technologies

Course Number : **IT 422**	Course Title : Information Security
Required / Elective : Required	Pre / Co-requisites : -
Catalog Description: Information security concepts and models, cryptographic techniques and algorithms, public cryptography, authentication, digital signatures, database security, secure payment systems. Case studies.	Textbook / Required Material : **Security In Computing Charles P. Pfleeger & Shari Lawrence Pfleeger** **Computer Security: Principles and Practice William Stallings, Lawrie Brown**
Course Structure / Schedule : **(3+0+0) 3 / 7 ECTS**	
Extended Description : **This course aims to give IT people the awareness for security needs of information in organisations, tools to enhance security and how to use them, principles of preparing security policies, risk management, disaster recovery, knowledge of ethics and legal issues relating security.**	
Design content : None.	Computer usage: None.

Course Outcomes: [relevant program outcomes in brackets]:

1. To master information security basics, its services such as such as authentication, authorization, secrecy, intergrity, digital signature, and nonrepudiation; understand information security governance, and related legal and regulatory issues [6]
2. To master information security governance, and related legal and regulatory issues including using administrative tools such as physical security, security policy and risk management and to be able to prepare and analysis related documents [6]
3. To be familiar with information security awareness for understanding external and internal threats, a clear understanding importance of providing security, and being able to understand how threats to an organization are discovered, analyzed, and dealt with [2,7]
4. To master fundamentals of secret and public cryptography as well as secure hashing algorithms, and the theory they use such as number theory, substituttion, permutation, an done way functions [6]
5. To master how secret cryptography, public cryptography, and hashing may be used to provide security services[2,3]
6. To understand basics and technical depth of network security threats including as e-mail security and web security; and and its countermeasures such as using PGP, SSL, IPSec, etc. [6]
7. To be exposed to the importance of integrating people, processes and technology [5]

Program Outcomes for Management Information Systems Program:

1. A foundation in mathematics and basic sciences and ability to apply acquired knowledge as they relate to the study and practice of information systems management.
2. An ability to align information technology, organizational and strategic matters.
3. An ability to propose, analyze, design, develop, test and maintain an information technology system including software solutions, security model, computer and network infrastructure, etc. to solve information systems problems.
4. An ability to analyze local and global impact of computing on individuals, organizations and society; and the ability to apply information systems techniques, skills, and tools for regular computing practices as well as to improve effectiveness of current methodologies.
5. An ability to effectively communicate in oral and written media with all kinds of related audiences; and prepare documentation for this purpose as required.
6. An understanding of professional, ethical, legal, and social issues and responsibilities of information systems management profession.
7. A taste and breadth of knowledge across several social topics outside the immediate requirements of the information systems management profession, and the ability to work within heterogeneous teams to accomplish a common goal including people from the information systems area as well as other disciplines.
8. An ability to engage in life-long learning and professional development for personal improvement to follow contemporary information systems issues.

Teaching methods

Students will learn the theory by pre-readings and attending affectively to the classes.

Assessment methods

1st Midterm exam 30%
2nd Midterm exams 30%
Final exam 40%

Student workload:

Preparatory reading	**128 hrs**
Lectures, workshop, discussions	**42 hrs**
Homework	**0 hrs**
Projects	**0 hrs**
Final Exam	**5 hrs**
TOTAL	**175 hrs**

Prepared by : **Dr. Vedat COŞKUN**	Revision Date : **08 February 2010**