OSTIM TECHNICAL UNIVERSITY
FACULTY OF ECONOMICS AND ADMINISTRATIVE SCIENCES
MANAGEMENT INFORMATION SYSTEMS DEPARTMENT
COURSE SYLLABUS FORM

MIS 214 Information Security							
Course Name	**Course Code**	**Period**	**Hours**	**Application**	**Laboratory**	**Credit**	**ECTS**
Information Security	MIS 214	1	3	0	0	3	6

Language of Instruction	English
Course Status	Compulsory
Course Level	Bachelor
Learning and Teaching Techniques of the Course	Lecture, Question-Answer, Problem Solving

Course Objective

This course focuses on information security concepts, methods, and techniques. Topics include the nature and challenges of information security, the relationship between policy and security, planning and implementation of information security, risk management, information security standards, the methodologies, and technologies of implementing information security maintenance.

Learning Outcomes

The students who succeeded in this course will be able;

1. To master the basic concepts of Information Security
2. To understand the need for Information Security
3. To comprehend basic methods and techniques of Information Security
4. To utilize methods and techniques of Information Security Planning
5. To utilize methods and techniques of implementing Information Security
6. To utilize methods and techniques of implementing Information Security Maintenance

Course Outline
This course will begin with introduction, history of Information Security (IS), what is security, key information security levels critical characteristics of information, approach to IS implementation at an introductory level. This two-week part aims to understand whether the students are ready to take IS to expand their knowledge. Then, the course will skip to the real part and the security system development life cycle will be introduced to make a basis for IS management. Then, the need for security, technical failures and errors, legal, ethical, and professional issues in IS will be taught. In the seventh weeks, major topic will be risk management. The week of eight is for the midterm exam. By the ninth week, planning and implementation of IS, security personal an IS maintenance will be taught .

Weekly Topics and Related Preparation Studies		
Weeks	**Topics**	**Preparation Studies**
1	Introduction	– Introduction – History of Information Security – What is Security? – Key Information Security Concepts – Critical Characteristics of Information – Components of an Information System – CNSS Security Model – Balancing Information Security and Access
2	Approaches to Information Security Implementation	– Bottom-Up Approach – Top-Down Approach – The Systems Development Life Cycle – Investigation, Analysis, Logical Design, Physical Design, Implementation, Maintenance and Change) – Security System Development Life Cycle
3	Security System Development Life Cycle	– SSDLC Approach – Investigation, Analysis, Logical Design, Physical Design, Implementation, Maintenance and Change) – Security Professionals and the Organization – Security Professionals and the Organization
4	The Need for Security	– Threat Basics – Threats to Information Security – Intellectual Property – Deliberate Software Attacks – Virus, Worms, Other Malwares

		– Hackers, System Rule Breakers – Forces and Natures – Acts and Human Errors – Missing, Inadequate or Incomplete Controls – Sabotage or Vandalism, Thief

5	Technical Failures or Errors	– Technical Hardware Failures or Errors – Technical Software Failures or Errors – Technology Obsolescence – Attacks – Methods of Attack – Initial Communication Three-Way Handshake – Programming Errors – Other Buffer Overflow Problem
6	Legal, Ethical, and Professional Issues in Information Security	– Law and Ethics in Information Security – Organizational Liability and the Need for Counsel – Policy Versus law – Types of Law – International Laws and Legal Bodies – Agreement on Trade-Related Aspects of Intellectual Property Rights – Digital Millennium Copyright Act – Major IT Professional Organizations
7	Risk Management	– Principles of Risk Management – Communities of Interest – Risk Identification Components – Asset Identification & Valuation – Asset Identification – Hardware, Software, Network Asset Id – Information Asset Classification – Determination of Value – Ordering by Importance – Data Classification & Management – Threat and Prioritize Threats & Threat Agents – Vulnerability Identification – Risk Assessment – Valuation of Information Assets – Documenting Results of Risk Assessment
8	**MIDTERM EXAM**	
9 - 10	Planning for Information Security	– Policies, Standards, and Practices – Mission/Vision/Strategic Plan – EISP, ISSP – Approaches to ISSP – Systems Management – Continuity Strategies – Components of Contingency Plan – Incident Response Planning – Incident Containment Strategies – Disaster Recovery Plan – Crisis Management

		– Business Continuity Planning – Off-Site Disaster Data Storage – Information Security Blueprint – Security Models – Hybrid Framework
11-12	Implementing Information Security	– Information Security Project Management – Developing the Project Plan – Scope Considerations – The Need for Project Management – Technical Aspects of Implementation – Conversion Strategies – The Bull's-Eye Model – Technology Governance and Change Control – Nontechnical Aspects of Implementation – The Culture of Change Management – Information Systems Security Certification and Accreditation
13	Security and Personnel	– Positioning & Staffing Security Function – What Security Personnel Should Know – Entry in the IS Professional – Classification of positions – Chief Information Security Officer, Security Manager, IT Security, Compliance Manager, Security Technician – Certifications – Personnel Precautions
14-15	Information Security Maintenance	– Security Management Maintenance Models – Information Security Handbook: A Guide for Managers – Information Security Handbook: A Guide for Managers – Monitoring the External Environment – Monitoring the Internal Environment – Planning and Risk Assessment – Vulnerability Assessment and Remediation – Readiness and Review
16	**FINAL EXAM**	

Textbook(s)/References/Materials:
Textbook: Principles of Information Security, (2012). 4th Edition, Whitman and Mattord, Thompson – Course Technology, ISBN: 9781337102063.

Supplementary References:

- Gupta, J. N. D., & Sharma, S. K. (2009). Handbook of research on information security and assurance. Hershey, PA: Information Science Reference
- ISO 27001:2022 Standard for Information Security Management systems (ISMS).

Assessment		
Studies	**Number**	**Contribution margin (%)**
Attendance		
Lab		
Class participation and performance	**1**	**20**
Field Study		
Course-Specific Internship (if any)		
Quizzes / Studio / Critical		
Homework		
Presentation		
Projects		
Report		
Seminar		
Midterm Exam/Midterm Jury	**1**	**30**
General Exam / Final Jury	**1**	**50**
Total		**100**
Success Grade Contribution of Semester Studies		**50**
Success Grade Contribution of End of Term		**50**
Total		**100**

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Course hours (Including the exam week): 16 x total course hours)	16	3	48
Laboratory			
Application			
Course-Specific Internship (if any)			
Field Study			
Study Time Out of Class	16	3	48
Presentation / Seminar Preparation			
Projects			
Reports			
Homework			
Quizzes / Studio Review	0	0	0
Preparation Time for Midterm Exams / Midterm Jury	2	20	40
Preparation Period for the Final Exam / General Jury	1	40	40
Total Workload	**(176/30 = 5,87)**		**176**

Course' Contribution Level to Learning Outcomes						
Nu	**Learning Outcomes**	**Contribution Level**				
		1	**2**	**3**	**4**	**5**
LO1	To master the basic concepts of Information Security					X
LO2	To understand the need for Information Security					X
LO3	To comprehend basic methods and techniques of Information Security					X
LO4	To utilize methods and techniques of Information Security Planning					X
LO5	To utilize methods and techniques of implementing Information Security					X
LO6	To utilize methods and techniques of implementing Information Security Maintenance					X

	Relationship Between Course Learning Outcomes and Program Competencies (Department of Management Information Systems)								
Nu	**Program Competencies**	**Learning Outcomes**							**Total Effect (1-5)**
		LO1	**LO2**	**LO3**	**LO4**	**LO5**	**LO6**	**…**	
1	Recognize and distinguish the basic concepts such as data, information, and knowledge in the field of Management Information Systems and know the processes to be followed for data acquisition, storage, updating, and security.	x	x	x	x	x	x		5
2	Develop and manage databases suitable for collecting, storing, and updating data.			x	x				3
3	As a result of his/her ability to think algorithmically, easily find solutions to the problems concerning the basic business functions.			x	x				3
4	Learn programming logic, have information about current programming languages.								
5	Learn programming logic, have information about current programming languages.								
6	Be able to take part in teamwork or lead a team using knowledge of project management processes.	x	x	x	x	x	x		5
7	Know ethical and legal rules, use professional field knowledge within the scope of ethical and legal rules.	x	x	x	x	x	x		5
8	Have knowledge in the fundamental areas of business administration namely management and organization, production, finance, marketing, numerical methods, accounting, etc., and have the knowledge and skills to work in-depth in at least one of them.		x	x	x	x			4
9	Be able to solve the problems encountered in the field of internet programming by designing web applications.	x	x	x	x	x	x		5

10	Develop and manage logistics and supply chain management activities								
11	Adapt his/her theoretical knowledge and the experience he/she will gain through practice at the departments of businesses such as information technologies, R&D, and management to real life.	x	x	x	x	x	x		5
12	Be able to develop strategies that will provide a competitive advantage with his/her advanced knowledge of management strategies and management functions.	x	x	x	x	x	x		5
13	Develop a business idea, commercialize the business idea, and design and manage his/her own venture using entrepreneurial knowledge.	x	x	x	x	x	x		5
14	By using English effectively, they can follow, read, write, speak and communicate universal information in the field of management information systems in a foreign language with professional competence.	x	x	x	x	x	x		5
Total Effect									50

Policies and Procedures
Web page: There is no web site yet.
Exams: The written exams will be multiple-choice and true/false questions.
Missed exams: Any student missing an exam needs to bring an official medical report to be able to take a make-up exam. The medical report must be from a state hospital.
Projects: Not applicable.
Attendance: Attendance requirements are announced at the beginning of the term. Students are usually expected to attend at least 70% of the classes during each term.
Objections: If the student observes a material error in his/her grade, he/she has the right to place an objection to the Faculty or the Department. The claim is examined and the student is notified about its outcome.