

OSTIM TECHNICAL UNIVERSITY COMPUTER ENGINEERING

ELEC 2 Cyber Security

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Course Name	Course Code	Term	Hour	Practice	Lab	Credit	ECTS
Cyber Security	ELEC 2	1	4	0	0	4	4

Language of the Course	English
Type of Course	Compulsory
Course Level	Undergraduate
Method of Teaching	Face-to-face, online
Instructor	
Course Learning and Teaching Techniques	Lecture, Homework, Project

Purpose of the Course

This course is designed to teach intermediate security practitioners how to use all functional levels to provide information system security. To this end, the course covers the topics that are important for securing a system in order. Besides technical issues, it also mentions plans and policies regarding cyber security, corporate roles, security measures, risk management, standards and regulations. It also takes care of the details and the availability of all the parts needed for a system to meet its security goals.

Learning Outcomes

Students who successfully complete this course;

- Evaluate the nature of the threat, the general status of vulnerabilities and the possible consequences of security failures,
- Learns the strengths and weaknesses of general cybersecurity models;
- Knows the interrelationships between the elements that make up a modern security system, including hardware, software, policies and people;
- Anticipate the possible consequences of misaligning corporate strategy, security policy and security plans;
- Evaluate risk principles and conduct a conceptual risk management exercise;
- Knows the current legal and regulatory environment as it applies to cybersecurity;
- Compares logical and physical security;

Course Content

This course covers the contemporary cybersecurity threat landscape facing systems. Students learn what they can do for security controls and countermeasures, and which method involves the decision-making process and what risks. It specifically focuses on risk management and security with all aspects of a system, including policies, procedures, training, strategic alliances, technologies and methodologies. Topics also include qualitative and quantitative risk analysis, audits, measurements, vulnerability assessment, and legal and regulatory processes.



Weekly Plan and Related Preparation Studies				
Week	Subjects			
1	Cyber Security Fundamentals			
2	Worms, Viruses			
3	Spyware, Trojans			
4	Phishing and Identity Theft			
5	Harassment, Cyberstalking			
6	Password Attacks, Denial of Service Attacks			
7	Passive Attack, Penetration Testing			
8	Midterm			
9	Mobile Protection			
10	Social Network Security			
11	Firewalls , Virtual Private Networks			
12	Anti Virus, Anti Spyware			
13	Cyber terrorism, Cyberwarfare, Cyberespionage			
14	Cryptography			
15	Digital Forensics			
16	Legal Recourse			

Resources (Textbook and supplementary book)

- 1. Fundamental of Cyber Security: Principles, Theory and Practices; Mayank Bhusan, Rajkumar Singh Rathore, Aatif Jamshed; BPB Publication, 2017
- 2. Cyber Security; John G. Voeller; Wiley; 2014

Evaluation System				
Studies	Number	Contribution		
Attendence				
Lab				
Application				
Field Study				
Course Specific Internship (if applicable)				
Quizzes/Studio/Critical				
Homework				
Presentation				
Projects	1	% 20		
Report				
Seminar				
Midterm Exams/Midterm Jury	1	% 30		
General Exam/Final Jury	1	% 50		
	Total	% 100		
Contribution of Mid-Semester Studies to Success Grade		% 40		
Contribution of End of Semester Studies to Success Grade		% 60		
	Total	% 100		

Course Category				
Basic Vocational Courses				
Specialization/Field Courses	х			
Support Lessons				
Communication and Management Skills Lessons				
Transferable Skills Lessons				



Course Learning Outcomes and Program Qualifications						
No	Drogrom Qualifications / Quitesmas	Contribution Level				
	Program Quanications / Outcomes		2	3	4	5
1	Ability to apply mathematics, science and engineering				х	
2	Gain the ability to solve a problem with security					
3	Ability to design a security system, component and process according to				v	
	specified specifications.			X		
4	Ability to work in an interdisciplinary team.					Х
5	It can improve the formulation and usability of engineering problems.					Х

ECTS/Workload Table					
Activities	Count	Duration (Hours)	Total Workload		
Lesson hours (Including the exam week: 16 x total lesson hours)	16	3	48		
Lab					
Application					
Course Specific Internship					
Field Study					
Out of Class Study Time					
Presentation/Seminar Preparation					
Projects	1	90	80		
Reports					
Homeworks	4	5	20		
Quizzes/Studio Critic					
Preparation Time for Midterm Exams/Midterm Jury	1	50	40		
Preparation Time for the General Exam/General Jury					
Total Workload			188		