COURSE DESCRIPTION FORM	
Course Code and Name	CENG468 E-SIGNATURE AND PUBLIC KEY INFRASTRUCTURES (TECH.ELECT.)
Course Semester	8
Catalog Content	Creating reliable communication in the network environment and creating a reliable platform
Textbook	Digital Signatures (Advances in Information Security), Jonathan Katz, Springer, 2010
Supplementary Textbooks	- Introduction to Public Key Infrastructures, Book by Alexander Wiesmaier, Evangelos Karatsiolis, and Johannes Buchmann, Springer, 2013 - Public Key Infrastructure: Building Trusted Applications and Web Services, Book by John R. Vacca, Auerbach Publications, 2014
Credit	6
Prerequisites of the Course (*Attendance Requirements*)	-
Type of the Course	Elective
Instruction Language	English
Course Objectives	Learning the basic principles of information security, encryption algorithms ISO 27001 standard
Course Learning Outcomes	E-Signature, components, applications Security Goals: data integrity, authentication, privacy, delegation, security tools and hardware Computer and communication security Standards ISO 270001 Digital Signature Algorithms Keys Summarization Algorithms Public Key infrastructure and components E-Signature law and applications
Instruction Methods	The mode of delivery of this course is face to face
Weekly Schedule	Week 1: E-signature definition, components, applications Week 2: Security elements, data integrity Week 3: ID verification and validation Week 4: Repudiation Made Week 5: Safety requirements and approaches used Week 6: Computer and communications security Week 7: Standards, ISO 27001 Week 8: Digital Signature Algorithms Week 9: Switches Week 10: Summarization Algorithms Week 11: Public-key infrastructure and components Week 12: Public-key infrastructure and components Week 13: E-signature software and equipment Week 14: E-signature software and equipment Week 15: Public-key infrastructure and equipment Week 16: E-Signature Law. E-signature applications

Teaching and Learning Methods

(These are examples. Please fill which activities you use in the course)

Weekly theoretical course hours: 3
Reading Activities
Internet browsing, library work
Preparation for Midterm and Midterm Exam
Final Exam and Preparation for Final Exam

Assessment Criteria

	Quantity	Total Contribution (%)
Midterm Exams	1	30
Assignment	5	30
Application		
Projects		
Practice		
Quiz		
Percent of In-term Studies (%)		60
Percentage of Final Exam to Total Score (%)		40
Attendance	-	-

Workload

Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Weekly Theoretical Course Hours	14	3	42
Weekly Tutorial Hours			
Reading Tasks	12	4	48
Studies	10	3	30
Material Design and Implementation			
Report Preparing			
Preparing a Presentation			
Presentations			
Midterm Exam and Preparation for Midterm Exam	1	15	15
Final Exam and Preparation for Final Exam	1	15	15
Other (should be emphasized)			
Total Workload			150
Total Workload / 25			6
Course Credit (ECTS)			6

Contribution Level Between Course Learning Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Sufficient knowledge on mathematics, science and computer engineering; ability to apply theoretical and practical knowledge in these areas to model and solve engineering problems					X
2	Ability to identify, define, formulate and solve complex engineering problems; ability to choose and apply appropriate analysis and modelling methods for these purposes				X	

	3	Ability to design a complex system, process, device, software, algorithm, or product under realistic constraints and circumstances to meet certain requirements; ability to apply modern design techniques for this purpose			X			
	4	Ability to choose, develop and use modern techniques and tools necessary for engineering applications; ability to effectively use computing technologies					X	
	5	Ability to design and implement systems or experiments to solve engineering problems, collect and interpret data to evaluate and analyze the results of solutions			X			
	6	Ability to work effectively in intradisciplinary and interdisciplinary teams or individually					X	
	7	Ability to efficiently prepare, evaluate and interpret reports					X	
	8	Ability to make presentations and conduct effective verbal and written communication in Turkish and English			X			
	9	Awareness of the necessity of lifelong learning; ability to access information, follow scientific and technological developments; ability to perpetually renew oneself				X		
	10	Awareness of professional and ethical responsibility, ability to act in accordance with ethical principles					X	
	11	Ability to apply knowledge on project management, risk management and change management				X		
	12	Awareness of entrepreneurship and innovation, ability to design and build sustainable systems				X		
	13	Ability to devise local and global solutions to contemporary issues considering the effects of engineering applications on health, environment and security		X				
	14	Awareness of the legal consequences of engineering solutions		X				
	15	Ability to apply knowledge on software development process and documentation rules				X		
	16	Knowledge on standards used in engineering applications					X	
	17	Awareness of occupational health and security, information security and privacy			X			

The Course's Lecturer(s) and Contact Information	Prof. Dr. Şeref SAĞIROĞLU ss@gazi.edu.tr