<table>
<tr><th colspan="2">COURSE DESCRIPTION FORM</th></tr>
<tr><td>Course Code and Name</td><td>CENG374 INTRODUCTION TO COMPUTER SECURITY (TECH.ELECT.)</td></tr>
<tr><td>Course Semester</td><td>6</td></tr>
<tr><td>Catalogue Data of the Course (Course Content)</td><td>Fundamentals of information security, information security standards, introduction to cryptography, electronic signature, key distribution, authentication, access control, database and operating system security, software security, malware, network security, intrusion detection, web and e-mail security</td></tr>
<tr><td>Course Textbooks</td><td>Introduction to Computer Security, Michael Goodrich, Roberto Tamassia,Pearson, 2010.</td></tr>
<tr><td>Supplementary Textbooks</td><td>Computer Security Fundamentals (Prentice Hall Security Series) by Chuck Easttom, 2005.

Security in Computing, Charles R. Pfleeger and Shari Lawrence Pfleeger, Prentice Hall, 2006.</td></tr>
<tr><td>Credit (ECTS)</td><td>6</td></tr>
<tr><td>Prerequisites for the Course (Attendance Requirements)</td><td>There is no prerequisite or co-requisite for this course.</td></tr>
<tr><td>Course Type</td><td>Elective</td></tr>
<tr><td>Language of Instruction</td><td>English</td></tr>
<tr><td>Course Objectives</td><td>To teach the precautions to be taken to ensure computer security by focusing on current threats.</td></tr>
<tr><td>Course Learning Outcomes</td><td>1. Defines the basic elements of information security.
2. Explains information security threats and precautions that can be taken.
3. Explains the working principles of basic encryption methods.</td></tr>
<tr><td>Instruction Method
(Face-to-face, Distance education etc.)</td><td>The mode of delivery of this course is face to face.</td></tr>
<tr><td>Weekly Schedule of the Course</td><td>Week 1: Introduction to Information and Computer Security
Week 2: Fundamentals of Information Security
Week 3: Information Security Standards and Risk Management
Week 4: Classification of Threats and Types of Attacks
Week 5: Introduction to Cryptography
Week 6: Symmetric Encryption and Cryptographic Attacks
Week 7: Asymmetric Encryption
Week 8: Message Authentication
Week 9: User Authentication and Access Control
Week 10: Database and Operating System Security
Week 11: Software Security
Week 12: Malware and Defense Methods
Week 13: Attack Detection
Week 14: Web and Email Security</td></tr>
<tr><td>Teaching Activities
(The time spent for the activities listed here will determine the amount of credit required)</td><td>Weekly theoretical course hours: 3
Internet search and library work
Designing and implementing materials
Making a report
Preparing and making presentations
Midterm and revision for midterm
Final exam and revision for final exam</td></tr>
<tr><td>Assessment Criteria</td><td>
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<tr><th></th><th>Number(s)</th><th>Weight (%)</th></tr>
<tr><td>Midterm exam</td><td>1</td><td>30</td></tr>
<tr><td>Assignment</td><td>2</td><td>10</td></tr>
<tr><td>Application</td><td></td><td></td></tr>
<tr><td>Project</td><td>1</td><td>20</td></tr>
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	Practice		
	Quiz		
	Final exam	1	40
	Total	5	100

Workload of the Course

Activity	Number of Weeks	Duration (Weekly Hour)	End of Semester Total Workload
Weekly theoretical course hours	14	3	42
Weekly practical course hours			
Reading activities			
Internet search and library work	12	1	12
Designing and implementing materials	9	4	36
Making a report	9	2	18
Preparing and making presentations	3	2	6
Midterm and revision for midterm	2	6	12
Final exam and revision for final exam	4	6	24
Total workload			150
Total workload/ 25			6
Course Credit (ECTS)			6

Contribution Level between Course Outcomes and Program Outcomes

No	Program Outcomes	1	2	3	4	5
1	Knowledge of mathematics, science, basic engineering, computing, and computer engineering; ability to use this knowledge in solving complex engineering problems.				X	
2	Ability to define, formulate and analyze complex engineering problems using basic science, mathematics and engineering knowledge and considering the UN Sustainable Development Goals relevant to the problems addressed.			X		
3	Ability to design creative solutions to complex engineering problems; ability to design complex systems, processes, devices, software, algorithms or products to meet current and future requirements, considering realistic constraints and conditions.				X	
4	Ability to select, use and develop appropriate techniques, resources and modern engineering and informatics tools, including estimation and modeling, for the analysis and solution of complex engineering problems while being aware of their limitations.					X
5	Ability to use research methods to examine complex engineering problems or research topics in computer engineering, including reviewing the literature, designing experiments, conducting experiments, collecting data, analyzing and interpreting results.					X
6	Knowledge of the effects of engineering practices and the standards used in these practices on society, health and safety, economy, sustainability and environment within the scope of the UN Sustainable Development Goals; awareness of the consequences of engineering solutions in the fields of information security and law.					X
7	Acting in accordance with engineering		X			

		professional principles and knowledge on ethical responsibility; awareness of acting impartially, without discrimination on any issue, and being inclusive of diversity.					
	8	Ability to work effectively individually and as a team member or leader in intradisciplinary and multidisciplinary teams (face-to-face, remote, or hybrid).				X	
	9	Ability to conduct effective verbal and written communication on technical issues in Turkish or English, prepare reports, make effective presentations and prepare software documentation, considering the various differences of the target audience (such as education, language, profession).					X
	10	Knowledge of business practices such as project, risk and change management and economic feasibility analysis; awareness of entrepreneurship and innovation.				X	
	11	Lifelong learning skill that includes the ability to learn independently and continuously, to adapt to new and developing scientific practices and technologies, and to think inquisitively about technological changes.				X	
Lecturer(s) and Contact Information	Assist. Prof. Dr. M. Sedef DEMİRCİ sedefgunduz@gazi.edu.tr						