Course Description Form	
Course Code and Name	CENG472 SECURE CODING (TECH.ELECT.)
Course Semester	8
Catalog Content	Presentation of potential risks and incorrect coding examples to software developers, safe and secure coding methods
Textbook	Secure Coding in C and C++ (2nd Edition) (SEI Series in Software Engineering) by Robert C. Seacord (Author), Addison-Wesley Professional, 2013
Supplementary Textbooks	Secure Coding: Principles and Practices, 1st Edition by Mark G. Graff (Author), Kenneth R. van Wyk (Author), O'Reilly Media, 2003 Writing Secure Code, (Developer Best Practices) 2nd Edition by Michael Howard (Author), David LeBlanc (Author), Microsoft Press, 2003
Credit	6
Prerequisites of the Course (*Attendance Requirements*)	There is no prerequisite or co-requisite for this course
Type of the Course	Elective
Instruction Language	English
Course Objectives	To help software developers eliminate to the software security challenge, to enabling organizations to conceive, develop, acquire, operate and maintain applications that can be trusted
Course Learning Outcomes	1. Determining steps to develop secure software applications 2. Identifying all factors that may render code insecure 3. Forming secure coding standards and developing test environment
Instruction Methods	The mode of delivery of this course is Face to face.
Weekly Schedule	1. Secure coding principals and applications 2. Secure coding principals and applications 3. Software vulnerabilities 4. Software vulnerabilities 5. System attacks 6. System attacks 7. Safe design techniques 8. Safe design techniques 9. Examples of software implementation 10. Examples of software implementation 11. Malicious software implementation techniques 12. Malicious software implementation techniques 13. Test Techniques 14. 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 Designing and implementing materials Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam

Assessment Criteria		Numbers	Total Weighting (%)	
	Midterm Exams	1	20	
	Assignment	5	20	
	Application	1	20	
	Projects	0	0	
	Practice	0	0	
	Quiz	0	0	
	Percent of In-term Studies (%)	0	60	
	Percentage of Final Exam to Total Score (%)	0	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	0	0	0
	Reading Tasks	8	4	32
	Studies	9	4	36
	Material Design and Implementation	12	1	12
	Report Preparing	0	0	0
	Preparing a Presentation	0	0	0
	Presentations	0	0	0
	Midterm Exam and Preparation for Midterm Exam	1	13	13
	Final Exam and Preparation for Final Exam	1	15	15
	Other (should be emphasized)	0	0	0
	Total Workload			150
	Total Workload / 25			6
	Course Credit (ECTS)			6

	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	

Contribution Level Between Course Learning Outcomes and Program Outcomes							
	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					x
	9	Awareness of the necessity of lifelong learning; ability to access information, follow scientific and technological developments; ability to perpetually renew					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				x	
	14	Awareness of the legal consequences of engineering solutions				x	
	15	Ability to apply knowledge on software development process and documentation rules					
	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	Computer Engineering Department Chair bmbb@gazi.edu.tr						