COURSE DESCRIPTION FORM	
Course Code and Name	CENG459 SPECIAL TOPICS IN COMPUTER ENGINEERING I (TECH.ELECT.)
Course Semester	7
Catalogue Data of the Course (*Course Content*)	Current topics and developments in computer science and engineering
Course Textbooks	Proceedings of the IEEE, ISSN:0018-9219
Supplementary Textbooks	ACM Computing Surveys, ISSN:0360-0300 Information Sciences, Elsevier, ISSN:0020-0255
Credit (*ECTS*)	6
Prerequisites for the Course (*Attendance Requirements*)	-
Course Type	Elective
Language of Instruction	English
Course Objectives	To teach current issues and developments in the field of computer science and engineering
Course Learning Outcomes	Defines theoretical developments and methodologies in information and computer technologies.
Instruction Method (*Face-to-face, Distance education etc.*)	The mode of delivery of this course is face to face.
Weekly Schedule of the Course	Week 1: Generative artificial intelligence Week 2: Generative artificial intelligence Week 3: Quantum computing Week 4: Quantum computing Week 5: Metaverse Week 6: Metaverse Week 7: New generation software technologies Week 8: New generation software technologies Week 9: Cyber security Week 10: Cyber security Week 11: Cloud computing Week 12: Cloud computing Week 13: New generation communication networks Week 14: New generation communication networks
Teaching Activities (*The time spent for the activities listed here will determine the amount of credit required*)	Weekly theoretical course hours: 3 Reading activities 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

Assessment Criteria		**Number(s)**	**Weight (%)**
	Midterm exam	1	20
	Assignment	5	20
	Application		
	Project	1	20
	Practice		
	Quiz		
	Final exam	1	40

		Total	7		

	Activity	Number of Weeks	Duration (Weekly Hour)	End of Semester Total Workload
Workload of the Course	Weekly theoretical course hours	14	3	42
	Weekly practical course hours			
	Reading activities	8	4	32
	Internet search and library work	8	4	32
	Designing and implementing materials	12	1	12
	Making a report	1	3	3
	Preparing and making presentations	1	4	4
	Midterm and revision for midterm	1	10	10
	Final exam and revision for final exam	1	15	15
	Total workload			150
	Total workload/ 25			6
	Course Credit (ECTS)			6

	No	Program Outcomes	1	2	3	4	5
Contribution Level between Course Outcomes and Program Outcomes	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 professional principles and knowledge on ethical responsibility; awareness of acting impartially, without discrimination on any		X			

			1	2	3	4	5
		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.					
	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		Computer Engineering Department Chair bmbb@gazi.edu.tr					