COURSE DESCRIPTION FORM	
Course Code and Name	BM454 DATABASE APPLICATIONS (TECH. ELECT.)
Course Semester	8
Catalogue Data of the Course (*Course Content*)	Concepts and models in relational database, basic SQL, advanced SQL, introduction to PL/SQL
Course Textbooks	Oracle Database 12c The Complete Reference, Bob Bryla ve Kevin Loney, Oracle Press, McGraw-Hill Education, 2013.
Supplementary Textbooks	Application Development with Oracle Database 12c, Oracle White Paper, 2013.
Credit (*ECTS*)	6
Prerequisites for the Course (*Attendance Requirements*)	There is no prerequisite or co-requisite for this course.
Course Type	Elective
Language of Instruction	Turkish
Course Objectives	To teach database programming with basic and advanced SQL queries
Course Learning Outcomes	1. Writes SQL queries at different levels of complexity. 2. Performs database integration in software projects.
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: Relational database concept and terminology Week 2: Retrieving data from the database with SQL SELECT Week 3: Data restriction and sorting Week 4: Output customization Week 5: Conversion functions and conditional expressions Week 6: Group functions Week 7: Join operations Week 8: Subqueries and set operators Week 9: DML queries Week 10: DDL queries Week 11: DDL queries Week 12: Controlling user access Week 13: Introduction to PL/SQL Week 14: Processing large data sets
Teaching Activities (*The time spent for the activities listed here will determine the amount of credit required*)	Weekly theoretical course hours: 3 Internet search and library work Designing and implementing materials Making a report Midterm and revision for midterm Final exam and revision for final exam

Assessment Criteria		Number(s)	Weight (%)
	Midterm exam	1	30
	Assignment		
	Application		
	Project	1	20
	Practice		
	Quiz	2	10
	Final exam	1	40
	Total	5	100

	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			
	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

	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.					
	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.					
	7	Acting in accordance with engineering professional principles and knowledge on ethical responsibility; awareness of acting impartially, without discrimination on any issue, and being inclusive of diversity.		X			

	8	Ability to work effectively individually and as a team member or leader in intradisciplinary and multidisciplinary teams (face-to-face, remote, or hybrid).					
	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	Assist. Prof. Dr. M. Sedef DEMİRCİ sedefgunduz@gazi.edu.tr						