

<b>COURSE DESCRIPTION FORM</b>	
<b>Course Code and Name</b>	CENG378 MOBILE APPLICATION ARCHITECTURES (TECH. ELECT.)
<b>Course Semester</b>	6
<b>Catalogue Data of the Course (Course Content)</b>	This course provides an in-depth review of mobile app development, focusing on native apps for platforms such as IOS and Android. It covers the fundamental principles, methodologies and design patterns required to develop efficient, user-friendly mobile applications. Students will learn through a combination of theoretical concepts and practical hands-on exercises.
<b>Course Textbooks</b>	Mobile Application Development using Android, Girish Kumar, Ajay Shriram Kushwaha, 2019, Lambert Publishing
<b>Supplementary Textbooks</b>	
<b>Credit (ECTS)</b>	6
<b>Prerequisites for the Course (Attendance Requirements)</b>	There is no prerequisite or co-requisite for this course.
<b>Course Type</b>	Selective
<b>Language of Instruction</b>	English
<b>Course Objectives</b>	The aim of this course is to teach students the processes required to develop professional native mobile applications, connect these mobile applications to web services, and publish these applications.
<b>Course Learning Outcomes</b>	<ol style="list-style-type: none"> <li>1. Understanding the architecture of native mobile applications</li> <li>2. Learning the basic design models used in mobile application development</li> <li>3. Improve your programming skills for iOS and Android platforms</li> <li>4. To learn about the points to consider in UI/UX design for mobile applications.</li> <li>5. Exploring advanced topics such as performance optimization and scalability.</li> </ol>
<b>Instruction Method (Face-to-face, Distance education etc.)</b>	The mode of delivery of this course is face to face
<b>Weekly Schedule of the Course</b>	Week 1: Introduction to web applications Week 2: Service Oriented Architecture - (SOA) Week 3: Web Services and REST Week 4: Monolithic architectures Week 5: Introduction to micro-service architecture Week 6: Decomposition Strategies Week 7: Inter-process communication Week 8: Distributed Transactions and Saga Week 9: Business logic design Week 10: Event-based management Week 11 Queries Week 12: Testing processes in microservice systems Week 13: Distributed message queues Week 14: DevOps CI/CD
<b>Teaching Activities (The time spent for the activities listed here will determine the amount of credit required)</b>	Weekly theoretical course hours: 3 Reading activities 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	30			
	Practice					
	Quiz					
	Final exam	1	40			
Total	3	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	14	2	28
	Internet search and library work	14	1	14
	Designing and implementing materials	1	40	40
	Making a report	1	6	6
	Preparing and making presentations			
	Midterm and revision for midterm	1	10	10
	Final exam and revision for final exam	1	10	10
	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		X			

		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.				X	
	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).				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	
<b>Lecturer(s) and Contact Information</b>	Lecturer's First/Last Name: Asst.Prof. Dr. Hüseyin Temuçin E-mail address: huseyintemucin@gazi.edu.tr						