<table>
<tr><th colspan="2">COURSE DESCRIPTION FORM</th></tr>
<tr><td>Course Code and Name</td><td>BM314 SOFTWARE ENGINEERING</td></tr>
<tr><td>Course Semester</td><td>6</td></tr>
<tr><td>Catalogue Data of the Course (Course Content)</td><td>Software Engineering Methods, Software Development Processes, Software Requirements, Software Modelling, Prototyping, Software Design and Representation, User Interface Design, Software Testing, Software Project Management, Software Quality Assurance, Software Process Improvement</td></tr>
<tr><td>Course Textbooks</td><td>Sommerville, I. (2016). Software Engineering (10th ed.). Pearson Education Publications.</td></tr>
<tr><td>Supplementary Textbooks</td><td>Pressman, R.S. & Maxim, B.R. (2015). Software Engineering: A Practioner’s Approach (8th ed.). McGraw Hill.
Mazzara, M., & Meyer, B. (Eds.). (2017). Present and Ulterior Software Engineering. Springer International Publishing.</td></tr>
<tr><td>Credit (ECTS)</td><td>6</td></tr>
<tr><td>Prerequisites for the Course (Attendance Requirements)</td><td>Prerequisites course: No
Co-requisites: Obligatory course attendance 70%</td></tr>
<tr><td>Course Type</td><td>Compulsory</td></tr>
<tr><td>Language of Instruction</td><td>Turkish</td></tr>
<tr><td>Course Objectives</td><td>Understanding the process of developing software consisting of requirements and specifications, design, coding, testing and maintenance phases

Understanding software engineering techniques, methods, and notations for developing large-scale software throughout the software development process</td></tr>
<tr><td>Course Learning Outcomes</td><td>1. Defines the basic concepts in software engineering.
2. Applies software development processes and software development models
3. Expresses system requirements and types of system requirements
4. Compares different methods applied in software development.</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>1. Week Introduction
2. Week Software Engineering Methods
3. Week Software Development Processes
4. Week Software Development Processes
5. Week Software Requirements
6. Week Software Modelling
7. Week Prototyping
8. Week Software Design and Representation
9. Week User Interface Design
10. Week User Interface Design
11. Week Software Testing
12. Week Software Project Management
13. Week Software Quality Assurance
14. Week Software Process Improvement</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
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>
<table>
<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></td><td></td></tr>
<tr><td>Application</td><td></td><td></td></tr>
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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	0	0	0
Reading activities	0	0	0
Internet search and library work	0	0	0
Designing and implementing materials	3	15	45
Making a report	4	5	20
Preparing and making presentations	1	4	4
Midterm and revision for midterm	1	19	19
Final exam and revision for final exam	1	20	20
Total workload			150
Total workload/ 25			6
Course Credit (ECTS)			6

Contribution Level between Course Outcomes and Program Outcomes

No	Program Çıktıları	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.						
		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.						
		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	Prof. Dr. Hacer KARACAN hkaracan@gazi.edu.tr								