Course Description Form	
Course Code and Name	BM314 SOFTWARE ENGINEERING
Course Semester	6
Catalog Content	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
Textbook	Sommerville, I. (2016). Software Engineering (10th ed.). Pearson Education Publications.
Supplementary Textbooks	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.
Credit	6
Prerequisites of the Course (*Attendance Requirements*)	Prerequisites course: No Co-requisites: Obligatory course attendance 70%
Type of the Course	Compulsory
Instruction Language	Turkish
Course Objectives	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
Course Learning Outcomes	1. Learning the fundamental concepts of software engineering 2. Understanding the concept of software processes and software process models 3. Learning software system requirements, and explaining different ways of expressing software requirements 4. Learning different approaches to software development
Instruction Methods	The mode of delivery of this course is Face to face

Weekly Schedule	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

Teaching and Learning Methods *(These are examples. Please fill which activities you use in the course)*	Weekly theoretical course hours: 3 Designing and implementing materials Report Preparing Preparing a Presentation Presentations Preparation of Midterm and Midterm Exam Final Exam and Preparation for Final Exam

Assessment Criteria		**Numbers**	**Total Weighting (%)**	
	Midterm Exams	1	30	
	Assignment	0	0	
	Application	0	0	
	Projects	1	30	
	Practice	0	0	
	Quiz	0	0	
	Percent of In-term Studies (%)		60	
	Percentage of Final Exam to Total Score (%)		40	
	Attendance		-	

	Activity	Total Number of Weeks	Duration (weekly hour)	Total Period Work Load
Workload	Weekly Theoretical Course Hours	14	3	42
	Weekly Tutorial Hours	0	0	0
	Reading Tasks	0	0	0
	Studies	0	0	0
	Material Design and Implementation	1	22	22
	Report Preparing	4	10	40
	Preparing a Presentation	1	5	5
	Presentations	1	1	1
	Midterm Exam and Preparation for Midterm Exam	1	15	15
	Final Exam and Preparation for Final Exam	1	25	25
	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
Contribution Level Between Course Learning Outcomes and Program Outcomes	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	
	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			

#		1	2	3	4	5
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 English					X
9	Awareness of the necessity of lifelong learning; ability to access information, follow scientific and technological developments; ability to perpetually renew oneself				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 security			X		
14	Awareness of the legal consequences of engineering solutions	X				
15	Ability to apply knowledge on software development process and documentation rules					X
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	Assoc. Prof. Dr. Hacer KARACAN hkaracan@gazi.edu.tr