TED UNIVERSITY, COURSE SYLLABUS

Faculty	Engineering	**Department**	Software Engineering Computer Engineering

Course Code & Number	SENG 214/CMPE313	**Course Title**	Software Engineering
Type of Course	☑ Compulsory ☐ Elective	**Semester**	☐Fall ☑ Spring ☐ Summer
Course Credit Hours	(3+0+0) 3	**Number of ECTS Credits**	6
Pre-requisite	CMPE 211 or CMPE 114	**Co-requisite**	N/A
Mode of Delivery	☑ Face-to-face ☐Distance learning	**Language of Instruction**	☑ English ☐ Turkish
Course Coordinator	Dr. Elif KURTARAN ÖZBUDAK	**Course Lecturer(s)**	Dr. Elif KURTARAN ÖZBUDAK Dr. Evren COŞKUN
Required Reading	*Software Engineering* by Ian Sommerville 10th Edition, Pearson Education Limited 2016, ISBN: 978-0-13-394303-0	**Recommended Reading**	*Software Engineering: A Practitioner's Approach* by Roger Pressman and Bruce Maxim, 9th Edition, McGraw-Hill Education, ISBN-13: 978-1-260-54800-6. Coursera Courses by The Hong Kong University of Science and Technology : **Course 1 -** Software Engineering: Modeling Software Systems using UML **Course 2 –** Software Engineering:Implementation and Testing **Course 3 -** Software Engineering: Software Design and Project Management
Course Catalog Description	Software Engineering: introduction, basic terminology, principles and ethics. Software Processes: process models, activities. Agile Development: agile methodology, scrum. Software Requirements: eliciting requirements, developing use cases, modeling with scenario-based methods, modeling with class-based methods, UML models and sequence diagrams. Design Concepts: patterns, software architecture, and object-oriented design. Architectural Design: software architectures and styles. Software Quality: concepts, quality assurance, achieving software quality. Software Testing: strategies, conventional, object oriented application testing. Software Maintenance.		
Course Objectives	The objective of this course is to provide software engineering knowledge and skills to participate in a large scale software development environment and manage a software development process. The students will be able to put the theoretical knowledge of software requirements elicitation, developing use cases, modelling, designing and quality assessment into practical use.		

Course Learning Outcomes	Upon successful completion of this course, the students will be able to: 1. Discuss software processes and development lifecycle, 2. Prepare requirements for a software, 3. Construct a software design, 4. Describe the concepts of software quality, 5. Prepare software testing scenarios.		
Learning Activities & Teaching Methods[1]	☒ Brainstorming ☒ Case Study/Scenario Analysis ☐ Collaborating ☐ Concept Mapping ☒ Demonstrating ☒ Discussions / Debates ☐ Drama / Role Playing ☐ Experiments ☐ Field Trips ☐ Guest Speakers	☒ Hands-on Activities ☐ Inquiry ☐ Microteaching ☒ Oral Presentations / Reports ☐ Peer Teaching ☐ Predict-Observe-Explain ☒ Problem Solving ☒ Questioning ☒ Reading	☐ Scaffolding / Coaching ☐ Seminars ☐ Service Learning ☐ Simulations & Games ☒ Telling / Explaining ☐ Think-Pair-Share ☒ Video Presentations ☐ Web Searching ☒ Other(s):Coursera

Assessment Methods & Criteria[2]	☐ Case Studies / Homework	(…%)	☐ Presentation (Oral, Poster)	(0 %)
	☐ Lab Assignment	(...%)	☒ Project	(25 %)
	☐ Observation	(...%)	☒ Quiz	(10 %)
	☐ Oral Questioning	(...%)	☐ Self-evaluation	(...%)
	☐ Peer Evaluation	(...%)	☒ Test/Exam	(60 %)
	☐ Performance Project (Written, Oral)	(...%)	☒ Other(s): In class activities	(5%)
	☐ Portfolio	(...%)		

Student Workload[3]	☒ Case Study Analysis	(10 hrs)	☐ Online Discussion	(... hrs)
	☒ Course Readings	(30 hrs)	☒ Oral Presentation	(10 hrs)
	☐ Debate	(... hrs)	☐ Poster Presentation	(... hrs)
	☐ Demonstration	(... hrs)	☐ Report on a Topic	(… hrs)
	☒ Exams/Quizzes	(30 hrs)	☐ Research Review	(... hrs)
	☐ Field Trips/Visits	(… hrs)	☐ Resource Review	(... hrs)
	☒ Hands-on Work	(10 hrs)	☒ Team Meetings	(10 hrs)
	☐ Lab Applications	(... hrs)	☐ Web Designs	(... hrs)
	☒ Lectures	(42 hrs)	☐ Work Placement	(... hrs)
	☒ Mock Designs	(10 hrs)	☐ Workshop	(... hrs)
	☐ Observation	(... hrs)	☒ Other(s) Coursera	(10 hrs)
			Total Workload[4]	162

[1] Multiple options possible.
[2] Multiple options possible. A percentage must be stated for the selected assessment method & criteria.
[3] Multiple options possible. The student workload is found by multiplying the number and duration (hour) of the activity involved.
[4] Computing the ECTS credits of a course: Total workload / 25 or 30 hours = ECTS credit and1 ECTS credit = 25-30 hours

COURSE ASSIGNMENTS
A. Mid-term [25%]
B. Quizes [10%]
There will be 2 quizes.
C. In Class Activities / Active Class Participation [5%]
It is encouraged that you participate in class activities and discussions. Class participation is awarded based on your attendance to written class activities and your contribution to class discussion.
D. Project (25%)
Each project will be carried out in a group, and teams must be formed with students from the same section.Suggested project topics will be announced later on. Software development processes will be conducted in the project. Project hands-on works will be done/start in the class. Each group will submit only one deliverable, the points of the students will differentiate according to their hands-on performance in the class. At the end of the semester, each group will submit a prototype/mock-up design of their project. The project will be presented in the class, and presentation will be evaluated as well.
E. Final [35%]
There will be one final exam including the whole topics of course.
F. COURSERA CERTIFICATIONS (BONUS)
If you obtain certificates for **all three Coursera** Courses you will receive a **bonus of 5 points.** Partial completions will be minimally rewarded: completing only one course will earn you 1 point, while completing two courses will grant you 3 points. To be eligible for the bonus, you must submit proof of completion (certificate screenshots) no later than the end of Week 14.

COURSE POLICIES
Attendance
Attending is **NOT mandatory**, but strongly recommended. Some hands-on activities and discussions will be done in the lectures. If you would like to collect points for these activities (see active class participation clause), you need to attend the lectures.
Missed Deadline/Exam
There will be only one make-up exam for midterm and final exam, if the student can provide a legal document confirming a health issue at the time of the exam, or with the consensus of the CMPE faculty. **No make-up will be given for quizzes.**
Late Assignment Submission Policy
Late submissions more than 2 days will not be graded. Each late day imposes 20% penalty of the total homework grade.
Extra Credit
Extra credits will not be offered.
Project Assignment Rules
All project assignment work will be done as a group, unless told differently. Project hands-on work will be done/start in the class. A group will submit only one report, the points of the students will differentiate according to their hands-on performance in the class. At the end of the semester, each group will submit a mock-up prototype of their project. • Project Grading : Proposal: 5%, SRS : 30%, SDD : 30% , Presentation & Mock-Up: 35%

Plagiarism

All of the following are considered plagiarism:

- turning in someone else's work as your own
- copying words or ideas from someone else without giving credit
- failing to put a quotation in quotation marks
- giving incorrect information about the source of a quotation
- changing words but copying the sentence structure of a source without giving credit
- copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not"

Plagiarism is a very serious offense and will be penalized accordingly by the university disciplinary committee. The best way to avoid accidentally plagiarizing is to work on your own before you ask for the help of other resources.

Cheating

Cheating has a very broad description which can be summarized as "acting dishonestly". Some of the things that can be considered as cheating are the following:

- Copying answers on examinations, homework and laboratory works,
- Using prohibited material on examinations,
- Lying to gain any type of advantage in class
- Providing false, modified or forged data in a report
- Plagiarizing.
- Modifying graded material to be regraded.
- Causing harm to colleagues by distributing false information about an examination, homework or laboratory

Cheating is a very serious offense and will be penalized accordingly by the university disciplinary committee.

Class Readings

Class readings are necessary but not mandatory. The material covered in class by your instructor will only provide a fundamental understanding of the general context. The reading materials will be provided by the instructor on LMS, at the relevant week.

TENTATIVE COURSE OUTLINE				
Week	**Dates**	**Topics**	**Readings**	**Assignments**
1	10.02-14.02	Introduction to Software Engineering	Chapter 1	
2	17.02-21.02	Software Processes + IEEE 12207	Chapter 2	**Form your teams**
3	24.02-28.02	Agile Development	Chapter 3	**Select Projects**
4	3.03-7.03	Requirements Engineering	Chapter 4	
5	10.03-14.03	System Modeling/ Class Diagrams	Chapter 5	**Assignment 1: Project Proposals (10.03.2025)**
6	17.03-21.03	Requirements Modeling / Use Case Diagrams Requirements Specification	Chapter 4.4, 5,	
7	24.03-28.03	System Modeling/ Sequence, Activity, State Diagrams	Chapter 5	**Assignment 2: SRS (25.03.2025)**
8	31.03-4.04 (Monday, Tuesday Bayram)	SW Architecture and Design	Chapter 6,7	**Quiz1**
9	07.04-11.04	**MIDTERM EXAM (09.04.2025 Wednesday 18:00)**		
10	14.04-18.04	SW Architecture and Design	Chapter 6,7	
11	21.04-25.04 (23.04- Wednesday Holiday)	Software Testing	Chapter 8	
12	28.04-2.05 (01.05 – Thursday Holiday)	Software Quality Management	Chapter 24	**Assignment 3: Design Document (28.04.2025)**
13	5.05-9.05	Configuration Management	Chapter 25	
14	12.05-16.05	Software Maintenance	Chapter 9	**Quiz2**
15	19.05-23.05 (19.05.- Monday Holiday)	**Project Presentations**		
16	26.05-30.05	**Project Presentations**		

Prepared By[5]	Dr. Elif KURTARAN ÖZBUDAK	**Date**	02/02/2025

[5] It is the first person to prepare the course profile form and the first preparation date.

Revised By[6]		Rev. Date	

STUDENT SERVICES INFO:

Student Development and Psychological Counseling Center:

The Center is a service mandated with providing crisis intervention and supportive listening services to the campus community. A major part of fulfilling that mandate is raising awareness of our service so students know they are never alone in dealing with problems. You may contact the SDPCC at: ogrencidanismamerkezi@tedu.edu.tr, 0312 585 0316, Office A122, Or visit their website at http://csc.tedu.edu.tr/

TEDU COPeS - Psycho-Social Support

TED University Psychosocial Support Team was initially established in order to facilitate coping with the psychological, social, familial, academic, and professional difficulties that may arise due to adverse conditions associated with COVID-19 pandemic for TEDU students and employees.

In time we have expanded our services to provide psychosocial support in diverse disasters. In this line, TEDU COPeS offers psychosocial support for TED University students and employees in the aftermath of Kahramanmaraş earthquakes.

For further information and/or questions, visit their website at https://copes.tedu.edu.tr/

Specialized Support and Students with Disabilities

Students who may require specialized support due to a disability affecting mobility, vision, hearing, learning, mental or physical health should consult with Specialized Support and Disability Coordinator, Asst. Prof. Emrah Keser E-mail: emrah.keser@tedu.edu.tr, or visit the website at https://www.tedu.edu.tr/tr/main/engelsiz-tedu

[6] It is the person who revised the course profile form and the date of revision. It will be used if the course profile form is revised. In the new course proposal, this field will be left blank.