TED UNIVERSITY, COURSE SYLLABUS

Faculty	Engineering	**Department**	Software Engineering

Course Code & Number	SENG 212	**Course Title**	Requirements 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 113	**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
Required Reading	"Software Requirements", 3rd edition, Karl E. Wiegers Joy Beatty, Microsoft Press, 2013 Coursera Material Given in Appendix A.	**Recommended Reading**	1.Software Engineering by Ian Sommerville 10th Edition, Pearson Education Limited 2016, ISBN: 978-0-13-394303-0 2."Requirements Engineering: from system goals to UML Models to software specifications", Axel Van Lamsweerde ,Wiley, 2009.

Course Catalog Description	Kinds of software requirements, quality measurements, requirements elicitation, requirements analysis and negotiation, requirements prioritization, requirements validation, requirements management, requirements identification techniques, change management, requirements documentation, quality attributes of requirements documents.
Course Objectives	To understand software requirements engineering process and apply it for elicitation, specification, modeling and analysis of software requirements.
Course Learning Outcomes	Upon successful completion of this course, the students will be able to: 1. Understand fundamental concepts and principles of Software Requirement Engineering. 2. Derive software requirements from higher level system requirements using a variety of common elicitation techniques such as interviews, workshops, document analysis, prototyping, and other similar strategies used in industry. 3. Effectively document and analyze clear requirements in order to drive effective software development 4. Translate user needs into software requirements via models/diagrams 5. Understand requirements validation techniques to validate that the developed product meets specified requirements that satisfy customer needs 6. Understand requirement management activities.

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):Each student will enroll to coursera courses given in Appendix

Assessment Methods & Criteria[2]	☐ Case Studies / Homework	(…%)	☐ Presentation (Oral, Poster)	(0 %)
	☐ Lab Assignment	(...%)	☒ Project	(20 %)
	☐ Observation	(...%)	☒ Quiz	(15 %)
	☐ Oral Questioning	(...%)	☐ Self-evaluation	(...%)
	☐ Peer Evaluation	(...%)	☒ Test/Exam	(60 %)
	☐ Performance Project (Written, Oral)	(...%)	☒ Other(s): Active participation	(5%)
	☐ Portfolio	(...%)		

Student Workload[3]	☒ Case Study Analysis	(20 hrs)	☐ Online Discussion	(... hrs)
	☒ Course Readings	(20 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	(20 hrs)
	☐ Lab Applications	(... hrs)	☐ Web Designs	(... hrs)
	☒ Lectures	(42 hrs)	☐ Work Placement	(... hrs)
	☐ Mock Designs	(... 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%]

There will be one midterm exam.

B. Quizes [15%]

There will be 3 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.

C. Project (20%)

Each project will be carried out in a group. Project topics and the details will be announced later on. Software requirements 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 and in the presentation.

At the end of the semester, each group will submit a prototype/mock-up of their project in order to validate their product. The project will be presented in the class, and presentation will be evaluated as well.

Grading policy : Proposal (%5), SRS Release 1 (%60), Final SRS (%5) (Incorporationg requirements management principles in SRS Release 1 and conducting inspection) SRSPresentation & MockUp Grade (%30)

D. Final [35%]

There will be one final exam including the whole topics of course.

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 life threatening 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 will be graded with penalty. 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 works will be done as a group, unless told differently. Project hands-on works 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 design of their project.

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, at the relevant week.

TENTATIVE COURSE OUTLINE				
Week	**Dates**	**Topics**	**Readings**	**Assignments**
1	10.02-14.02	Introduction to Software Requirements Engineering	Chapter 1, Axel Van Lamsweerde Chapter 1,Sommerville	
2	17.02-21.02	Software Development Process Models and Requirements Engineering Activities	Chapter 2 ,Ian Sommerville Chapter 1, Axel Van Lamsweerde Chapter 1, Karl Wiegers	Form your project teams
3	24.02-28.02	Software Requirements Development Process + IEEE 12207	Chapter2,3, 5	Select Projects
4	3.03-7.03	Requirements Elicitation	Chapter 4.1, 4.3 ,Ian Sommerville Chapter 7, Wiegers	**Project Proposals Release (09.03.2025)**
5	10.03-14.03	Requirements Analysis & UML Modeling I	Chapter 5, Sommerville Coursera - Week 2: Modeling Software Systems Using UML Week 3 : Types of Relationships in Class Diagram Week 4 :System Requirements Capture and Domain Modeling	**Quiz1**
6	17.03-21.03	Requirements Analysis & UML Modeling II	Coursera Week 5 : Use Case Modeling Chapter 5, Sommerville	
7	24.03-28.03	Documenting the requirements	Chapter 10 Chapter 11 Coursera Week 6 –Use Case Specification, Week 7 :Non-Functional Requirements Chapter 4.4, Sommerville	
8	31.03-4.04	Requirements Prioritization	Chapter 11	**Quiz 2**
9	07.04-11.04	**MIDTERM (11.04.2025 Friday Lecture Hour)**		
10	14.04-18.04	Requirements Validation and Verification	Chapter 15 Chapter 17	
11	21.04-25.04	Requirements Management	Chapter 27	**SRS Release 1 Due : 21.04.2025**
12	28.04-2.05 (01.05 Holiday)	No lecture		
13	5.05-9.05	SRS Inspection Workshop		**Quiz 3**
14	12.05-16.05	Requirements Engineering in Agile	Chapter 20	**SRS Final Release Due: 13.05.2025**
15	19.05-23.05	Project Presentations		
16	26.05-30.05	Project Presentations		

Prepared By[5]	Dr. Elif KURTARAN ÖZBUDAK	**Date**	14/02/2024
Revised By[6]	Dr. Elif KURTARAN ÖZBUDAK	**Rev. Date**	02/02/2025

APPENDIX 1- Coursera Course List

Software Engineering: Modeling Software Systems using UML	https://www.coursera.org/learn/software-engineering-modeling-software-systems-using-uml?specialization=software-engineering

Course 1 - Software Engineering: Modeling Software Systems using UML
Week 1 : Introduction to Software Engineering
Week 2: Modeling Software Systems Using UML
Week 3 : Types of Relationships in Class Diagram
Week 4 :System Requirements Capture and Domain Modeling
Week 5 : Use Case Modeling
Week 6- Use Case Specification
Week 7 :Non-Functional Requirements

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

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