COURSE INFORMATON					
Course Title	*Code*	*Semester*	*L+P Hour*	*Credits*	*ECTS*
DISTRIBUTED SYSTEMS	CSE 532	1	3 + 0	3	10

Prerequisites	

Language of Instruction	English
Course Level	Graduate (Second Cycle Programmes)
Course Type	Compulsory
Course Coordinator	Prof.Dr. Şebnem Baydere
Instructors	Prof.Dr. Şebnem Baydere
Assistants	
Goals	The goal of this course is to teach the design principles of distributed systems that provide single system to the users.
Content	Characterization of distributed systems, system transparencies, basic design issues such as resource management, interprocess communication, synchronization, process/processor management, consistency control, memory management and file management in distributed systems

Learning Outcomes	**Program Outcomes**	**Teaching Methods**	**Assessment Methods**
1. Knowledge of real system constraints and characterstics of distributed systems	1,2	1,2,3	A,C
2. Knowledge of design principles for distributed operating ssytems	2	1,2,3	A,C
3. Ability to understand and present current published research papers	4	1	B
4. Ability to design, implement and conduct experiments to analyse the performance of a distributed system component.	4,5	3	D

Teaching Methods:	1: Lecture, 2: Question-Answer, 3: Project
Assessment Methods:	A: Testing, B: Presentationt, C: Homework, D: Term Project

COURSE CONTENT

Week	Topics	Study Materials
1	Characterization of Distributed Systems	
2	Overview of O/S design issues	
3	Distributed System Models, Processor Allocation Strategies	
4	Communication Principles	
5	Synchronization: Lamport`s logical clocks, mutual exclusion,	
6	Election algorithms, atomic transactions, Serialization	
7	Replication: consistency and concurrency control algorithms	
8	Other Issues : Distributed File Systems,Distributed Shared Memory	
9	Midterm	
10	Paper Presentations	
11	Paper Presentations	
12	Paper Presentations	
13	Paper Presentations	
14	Paper Presentations	

RECOMMENDED SOURCES	
Textbook	A. Tanenbaum, "Distributed Systems", Prentice Hall
Additional Resources	G. Coulouris e.al, "Distributed Systems", Addison Wesley Silberschatz e al, "Operating System Concepts", Addison Wesley, latest Edition

MATERIAL SHARING	
Documents	Research papers
Assignments	
Exams	

ASSESSMENT		
IN-TERM STUDIES	**NUMBER**	**PERCENTAGE**
Mid-terms	1	36

Presentations	1-2	36
Assignment	1	5
Term Project	1	23
Total		**100**
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE		30
CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE		70
Total		**100**

COURSE CATEGORY	Expertise/Field Courses

COURSE'S CONTRIBUTION TO PROGRAM

No	Program Learning Outcomes	Contribution				
		1	2	3	4	5
1	Knowledge on advanved computer architectures		X			
2	Knowledge on advanced computer system design issues					X
3	Knowledge on theory of computer science		X			
4	Ability to read, understand, present and critise research work from the liteature.					X
5	Knowledge on advaned telecommunications and next generation computer networks		X			

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION

Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Including the exam week: 16x Total course hours)	14	3	42
Hours for off-the-classroom study (Pre-study, practice)	14	2	28
Mid-terms	1	10	10
Presentations	1-2	20	40
Homework	1	10	10
Term Project	1	100	100
Final examination	1	20	20
Total Work Load			250
Total Work Load / 25 (h)			10
ECTS Credit of the Course			10