Course title	Code	semester	T+U	credit	ECTS
Distributed Computing		7	3+0	3	4

Prerequisite Courses	None
Language of the Course	English
Course Level	Undergraduate
Type of Course	Optional
Course Coordinator	
Instructors	
Course Assistants	
The aim of lesson	Algorithm development and implementation for parallel and distributed systems acquisition of skills
Course Content	Rationale, parallel architectures, parallel algorithm design, message delivery programming, shared memory programming, performance analysis, MPI and OPENMP, example problems.
Course Learning Outcomes	1. To be able to use a parallel programming library to write and run parallel programs 2. To be able to design parallel algorithms using the concepts of distribution, communication, stacking, and matching. 3. Ability to use IDE to design, implement, debug and run parallel programs 4. To implement parallel programs

Weeks	Topics
one	Introduction to distributed systems
2	Architectural structures
3	Communication models
4	Distributed naming
5	Parallel and distributed processes
6	Sync problems
7	Logical clocks
8	Vector clocks
9	Critical zone methods in distributed systems
10	replication
11th	Fault tolerance methods
12	Distributed file systems
13	File-based systems
14	Distributed database systems

General Competencies

The course contributes to program competencies by teaching how to produce distributed and parallel applications in cases where centralized systems are not sufficient and by basing these solutions on theoretical foundations.

resources

AS Tanenbaum, M. v. Steen, Distributed Systems: Principles and Paradigms, Prentice Hall, 2nd Edition

Evaluation System

The dates, days and hours of the Midterm Exam, Quiz, Final Exam and Evaluations will be announced later, according to the decision of the Faculty Administrative Board.

	WITH PROGRAM LEARNING OUTCOMES COURSE LEARNING OUTCOMES RELATIONSHIP TABLE										
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**
LO1			3	2	4						
LO2			3	2		one					
LO3					3	3					
LO4			3		2	4					
LO: Learning Outcomes OP: Program Outcomes											
Contribution Level	**1 Very Low**		**2 Low**		**3 Medium**		**4 High**		**5 Very High**		

Relation of Program Outcomes and Related Course

Course name	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**
Distributed Computing			3	2	3	3					