



Description of materials according to plan 11

1501439

parallel and distributed systems

1501430

This undergraduate course presents the basic concepts of parallel and distributed systems: hardware, software, design issues, and inter-process communications in distributed systems; External data representation and marshaling. It presents the architecture of these systems and its characteristics; client-server vs. P2P model, the layered protocols; synchronous vs. asynchronous communication mechanisms, Request-reply protocols, Remote Procedure Call (RPC), and Remote Method Invocation (RMI), Indirect and Group communication, The operating system support; Processes and Threads; naming and allocation; consistency and replication. Time and synchronization in distributed systems: physical vs. logical clocks; distributed mutual exclusion, election algorithms; distributed transactions; and case studies.