

University of Technology
Computer Engineering Department
Academic Year 2023 - 2024
third Year – Second Semester –Network Branch



CE-CN345	Distributed Database systems	2 Hours/Week	2 Units
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Contents of Syllabus	Hours
<ul style="list-style-type: none"> • Introduction <ul style="list-style-type: none"> ○ What is a distributed database system? ○ Promises of DDBSs ○ Complicating Factors ○ Problem Areas 	4
<ul style="list-style-type: none"> • Distributed Database Design <ul style="list-style-type: none"> ○ Fragmentation ○ Horizontal fragmentation ○ Derived horizontal fragmentation ○ Vertical fragmentation ○ Allocation 	4
<ul style="list-style-type: none"> • Overview of Query Processing • Query Decomposition and Localization 	4
<ul style="list-style-type: none"> • Optimization of Distributed Queries <ul style="list-style-type: none"> ○ Overview of Query Optimization ○ Centralized Query Optimization <ul style="list-style-type: none"> ▪ Ingres ▪ System R ○ Distributed Query Optimization 	4
<ul style="list-style-type: none"> • Distributed Transaction Management 	6
<ul style="list-style-type: none"> • Distributed DBMS Reliability 	6

- **Beyond Traditional RDBMS**

4

- The Big Data Era
- NoSQL (Not Only SQL) Databases
- New SQL Databases

Reference

- Principles of Distributed Database Systems, M. Tamer Özsu, Patrick Valduriez, 3rd Edition.

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