

Database Systems

- **Course number and name:**
CC 414 – Database System
- **Credits and contact hours**
Credits Hours: 3Hrs
Contact Hours: In Lecture 2Hrs, In Tutorial 2Hrs, and In Lab 2Hrs
- **Instructor's or course coordinator's name**
Coordinator Name: Prof. Dr. Ahmed Fahmy
- **Text book, title, author, and year**
 - Peter Rob, Carlos C., Database systems design, Implementation, and management, Wadsworth Pub., 1996
- **Specific course information**
 - a. **Catalog description**
Relational Database analysis - Design - Normalization - Implementation - Case studies - Oracle developer - Concurrent transactions - Related problems - Distributed databases - Client server approach.
 - b. **prerequisites or co-requisites**
Prerequisites: CC319
 - c. **Type of the course (required, elective, or selected elective course) in the program**
Required Course
- **Specific goals for the course**
 - a. **Specific outcomes of instruction**

After the completion of this course the students will be able to:

	Course Learning Outcomes	SO
1	Understand relational database design concepts.	C,J
2	Design a database system for a real-world problem.	C
3	Implement and verify a database system using ORACLE Developer.	J

Topics to be covered

- Introductory to database concepts
- Relational data model of relational database systems
- Relational Integrity rules
- Relational algebra
- Basic relational analysis and data modeling
- Normalization of database tables
- Extended relational analysis and data modeling
- Developing Entity / relationship diagram
- Developing a database design and Implementation of a real-world problem
- Indexing file structure
- Transaction management and concurrency control
- Internal level of database systems
- Distributed databases and client-server Architecture