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| **College of Computer and Information Sciences**  **Department of Information Technology**  **IT 331** |  | https://identity.ksu.edu.sa/sites/identity.ksu.edu.sa/files/imce_images/logo_9_0.png |

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1. Course number and name: IT 331 – Database Management Systems
2. Credits and contact hours: 3 (2+2+0)
3. Instructor’s or course coordinator’s name: Dr.Nora Al-Twairesh
4. Text book, title, author and year:

Primary:

Thomas Connolly and Carolyn Begg, Database Systems: A Practical Approach to Design, Implementation, and Management, Pearson, 6th edition - 2015.

Other supplementary materials:

Ramez Elmasri and Shamkant B. Navathe, Fundamentals of Database Systems, Pearson, 7th edition 2015.

Chhanda Ray, Distributed Database Systems, Pearson, 2009

1. Specific course information
   1. Brief description of the content of the course (Catalogue Description):

This course teaches advanced concepts in Database implementation and administration. Components include transaction processing, concurrency control, DB recovery, query processing, distributed databases, data warehousing, data mining, and non-relational databases. It also teaches the students the main skills that need to be acquired by a DB Administrator.

* 1. Prerequisites or co-requisites: IT 222 - Principles of Database Systems
  2. Indicate whether a required, elective, or selected elective course in the program: Required for Data Management track

1. Specific goals for the course
   1. Specific outcomes of instruction*.*

Students will be able to:

* + Analyze and design a suitable database fragmentation based on a given a set of demands and constraints and decide the best way of executing queries on them. (O, 1.2)
  + Apply and evaluate the different techniques used in concurrency control and recovery in centralized and distributed database environments.(C, 2.2)
  + Apply database administration techniques taking Oracle as an example. (J, 2.4)
  + Illustrate and justify the query processing methodologies. (A, 4.1)
  + Evaluate and choose the efficient query. (A, 4.1)

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| **#** | **Student Outcome addressed by the course** | **% of coverage** |
| **(O, 1.2)** | Present knowledge of best practices and their applications | 15% |
| **(C, 2.2)** | Design, implement and evaluate a computer-based system, process, component, or program to meet desired needs. | 50% |
| **(J, 2.4)** | Use and apply current technical concepts and practices in the core information technologies. | 20% |
| **(A, 4.1)** | Apply knowledge of computing and mathematics appropriate to the discipline. | 15% |

* 1. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.

1. Brief list of topics to be covered

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| **Topics** | **#Weeks** |
| Transaction Processing , Concurrency Control and Recovery management | 5 |
| Query Processing | 4 |
| Distributed Databases | 3 |
| Advanced Distributed Databases | 2 |
| Total | 14 |

1. Grades distribution

* Course Work (60%)
  + Midterms 25%
  + Quizzes 10%
  + DBA 15%
  + Tutorial 5%
  + Project 5%
* Final (40%)
  + Final Exam - 40%

1. Regulations and guidelines

* Assignments and Projects should be submitted as a soft copy through LMS and also hard copy.
* No makeup exams.
  + Exceptions will be considered with evidence and the approval of the exam committee.
    - You should fill the excuse form and bring it to the course instructor within 2 days after the exam.
    - You will go for a comprehensive exam ONLY after the exam's committee accepts your excuse
* No Mobile phone during the lectures and mobiles are NOT allowed in exams.
* Absolutely NO memorizing: Cheat-sheets in exams.
* Academic dishonesty (plagiarism) is strictly prohibited, and both parties will be penalized.

1. Current instructor office hours and location:

Coordinator and instructor Dr. Nora Al-Twairesh

Office : 6T121

Office Hours: Sunday 10-11; Monday9-10; Tues 9-12; Wed 10-12 or by appointment.

Email: [twairesh@ksu.edu.sa](mailto:twairesh@ksu.edu.sa)

Course blog: lms.ksu.edu.sa

Website : <http://fac.ksu.edu.sa/twairesh>