

DATABASE MANAGEMENT SYSTEMS



COURSE OVERVIEW

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CONTACT

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COURSE INTRODUCTION

- ❑ Subject: Database Management Systems
- ❑ Number: CO3021
- ❑ Credit: 3
- ❑ Period: 45
- ❑ Prerequisite: Database Systems
- ❑ Online learning: video lecture on BKeL
- ❑ Class Periods: 12 weeks

COURSE AIMS

- Describe **basic concepts** of a database management system.
- Identify the techniques of **efficient management** and **access data** that implemented in database management systems.
- Make sense of the **query processing** and **optimization principles**.
- Explain the issues of **multi-user environment** and **solutions** to deal with them, such as: transaction processing, concurrency control, database recovery.

REFERENCES

1. **R. Elmasri & S.B. Navathe, AddisonWesley, Fundamentals of Database Systems, 7th Edition, 2016.**
2. H. G. Molina, J. D. Ullman, J. Widom, Database System Implementation, Prentice-Hall, 2000.
3. A. Silberschatz, H.F. Korth & S. Sudarshan, Database Systems Concepts, 6th Edition, McGraw-Hill, 2006.
4. H.G. Molina, J.D. Ullman & J. Widom, Database Systems – The Complete Book, PrenticeHall, 2002.
5. T. Connolly & C. Begg, Database Systems – A Practical Approach to Design, Implementation, and Management, 6th Edition, Addison-Wesley, 2015.

OUTLINE

- ❑ Chapter 1: An overview of DBMS
- ❑ Chapter 2: Data storage and basic file structures
- ❑ Chapter 3: Data indexing
- ❑ Chapter 4: Query processing and optimization
- ❑ Chapter 5: Transaction processing
- ❑ Chapter 6: Concurrency control
- ❑ Chapter 7: Data recovery
- ❑ Chapter 8: Summary and Review

LEARNING OUTCOMES

- L.O.1: Describe **basic concepts** of a database management system.
- L.O.2: Identify the techniques of **efficient management** and **access data** storage implemented in database management systems.
- L.O.3: Make sense of the **query processing** and **optimization principles**.
- L.O.4: Explain the issues of **multi-user environment** and solutions to deal with them, such as: transaction processing, concurrency control, database recovery.

ASSESSMENT

- ❑ Midterm Test + Exer. (MT)
 - Weight: 30%
 - Duration: 45-60 mins
 - Open book
 - Multiple choice (single answer) and essay questions
 - When: Tba.
- ❑ Team Assignment (TA)
 - Weight: 20%
 - Members: 4-5
 - Tutorial
- ❑ Final Test (FT)
 - Weight: 50%
 - Duration: 70-90 mins
 - One A4 note
 - Multiple choice and essay questions

No Nullable score!

Total Score = (30% * MT) + (20% * TA) + (50% * FT) > 5.5

TUTORIAL TASKS

With a particular DBMS, you are required to present:

1. Data import and export (2 points)
2. Query processing with data relationships (2 points)
3. Data indexing (2 points)
4. Transaction (2 points)
5. Data back up and recovery (2 points)

Note: In case the DBMS has not yet supported either task 1-5, you have to find out the reason and the alternative way for it.

SUBMISSION

- ❑ Submission to BKeL: on time with regards to the provided schedule
- ❑ Team representative submits the work on behalf of the team
- ❑ Do not forget to press “submit” button

TEAM REGISTRATION

- On BKeL

QUESTIONS AND ANSWERS



Picture from: <http://philadelphiaculpturegym.blogspot.com/2013/09/save-date-free-talk-and-q-on-affordable.html>