COSC 304 Introduction to Database Systems

Course Summary and COSC 404

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Course Summary

The COSC 304 course goal was to:

Become an expert database user with the ability to query existing databases using SQL, design new databases using UML, and write programs that use databases.

High-demand skills acquired:

- ◆Querying: SQL, relational algebra
- ◆Database design: ER, UML
- ◆Programming: Java, JDBC, PHP, HTML, JSON, XML, XPath
- ◆Database skills make you more marketable and allow you to construct more sophisticated systems.
- ◆All these skills practiced during the labs and project.

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Survey Question: Lecture Value

Question: On a scale of 1 to 5 with 5 being the highest, how valuable/useful was the lecture time?

- **A)** 1
- **B)** 2
- **C)** 3
- **D)** 4
- **E)** 5

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Survey Question: Lab Value

Question: On a scale of 1 to 5 with 5 being the highest, how valuable/useful was the lab time and assignments?

- **A)** 1
- **B)** 2
- **C)** 3
- **D)** 4
- **E)** 5

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Survey Question: Workload

Question: On a scale of 1 to 5 with 1 being very low and 5 being very high, how was the overall workload compared to other courses and your expectations?

- **A)** 1
- **B)** 2
- **C)** 3
- **D)** 4
- **E)** 5

Survey Question: Clicker Value

Question: On a scale of 1 to 5 with 5 being the highest, how valuable/useful were the clicker questions used in-class?

- **A)** 1
- **B)** 2
- **C)** 3
- **D)** 4
- **E)** 5

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COSC 304 vs. COSC 404

COSC 304 Introduction to Database Systems COSC 404 Database System

Implementation

Database Design and Programming

- · Data models ER, relational, XML, JSON
- · Query languages SQL, relational algebra
- Design project
- · Database skills and techniques as a user
- How to use a DBMS; how to build a database

Database System Implementation

- · Storage and index structures
- Transaction management, concurrency control
- Query processing, recovery and reliability
- How to build a DBMS
- · Non-relational systems and architectures
- How to select a DBMS

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Thank you for a great course! Good luck on the exam!

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COSC 404 Course Goals

COSC 404 is about how a database works (the "black box").

◆Inside is storage, indexing, query processing/optimization, transactions, concurrency, recovery, distribution, lots of stuff!

Goals:

- 1) Be a better, "expert" user of database systems.
- 2) Be able to use and compare different database systems.
- 3) Adapt the techniques when developing your own software.

You will gain *lots* of industrial experience using a variety of databases and became a better, more experienced developer.