





### 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, Python, HTML, JSON, XML, XPath
- Database skills make you more marketable and allow you to construct more sophisticated systems.
- All these skills practiced during the lab assignments and project.





**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



## **Survey Question: Assignment Value**

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

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



## **Survey Question: Virtual Lab Attendance**

**Question:** On a scale of 1 to 5 with 5 being the highest, how often did you attend the virtual help sessions?

- A) Never
- B) A few times during the semester
- C) About every 2<sup>nd</sup> week
- D) Almost every week
- E) Every week





Question: On a scale of 1 to 5 with 5 being the highest, what was your opinion of having a virtual/physical help desk with drop-in hours rather than scheduled labs?

- A) Strongly Disagree
- B) Disagree
- C) Neutral
- D) Agree
- E) Strongly Agree

# **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



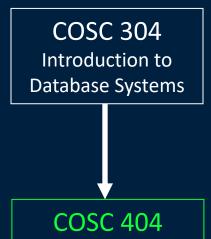
## **Survey Question: Online Questions**

**Question:** On a scale of 1 to 5 with 5 being the highest, how valuable/useful were the online questions used in the course?

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

### **COSC 304 vs. 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 (NoSQL) systems/architectures
- How to select a DBMS





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.

 MySQL, PostgreSQL, Microsoft SQL Server, MongoDB, JUnit, VoltDB, Java, JDBC, javacc, JSON, Map-Reduce, SQL



# Thank you for a great course!

Good luck on the exam!

