

# Minnesota State University Moorhead

## CSIS 304: Databases

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites:

This course requires any of these three prerequisite categories

1. CSIS 153 - Introduction to Computers and Programming I-b

Or

2. CSIS 155 - Introduction to Computers & Programming I

Or

3. Both of these

CSIS 104 - Spreadsheet and Database Applications

MATH 234 - Introduction to Probability and Statistics

Corequisites: None

MnTC Goals: None

This course provides a solid and practical foundation for the design, implementation, and management of database systems. The relational database model, relational databases, and Structured Query Language (SQL) are discussed in all details.

**B. COURSE EFFECTIVE DATES:** 08/22/2011 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Database Concepts.
2. Design Concepts.
3. Advance Design and Implementation.
4. Advance Database Concepts.
5. Database Administration.
6. Course Projects.

### D. LEARNING OUTCOMES (General)

1. Demonstrate the knowledge on the main database concepts.
2. Demonstrate the practical skills of the relational database design with UML and ER modeling.
3. Demonstrate the practical skills to implement, access, and manage databases using Structured Query Language (SQL).
4. Explain and discuss the main concepts of transaction management and concurrency control, performance tuning and query optimization.
5. Explain the main issues related to distributed database management systems.
6. Explain what a data warehouse is, how data for it are prepared, how it is implemented, and what online analytical processing (OLAP) is.
7. Demonstrate the practical skill of Web database development.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted