

Course discipline/number/title: COMP 1140: Introduction to Database and SQL**A. CATALOG DESCRIPTION**

1. **Credits:** 3
2. **Hours/Week:** 3
3. **Prerequisites (Course discipline/number):** MATH 0099
4. **Other requirements:** College level reading
5. **MnTC Goals (if any):** NA

- B. COURSE DESCRIPTION:** This course introduces database design and implementation concepts. Students will learn how to design, build, and use databases utilizing a relational Database Management System (RDBMS) such as Microsoft SQL Server, MySQL, Oracle, or PostgreSQL. Topics include relational database design principles, Entity-Relation (ER) diagrams, and Structured Query Language (SQL). Students will use SQL to create, retrieve, update, and delete database tables and records. They will design and implement their own relational databases. College level reading is required.

- C. DATE LAST REVISED (Month, year):** December, 2022

D. OUTLINE OF MAJOR CONTENT AREAS:

1. Relational database design
2. Entity-relationship diagrams
3. Other data models
4. Structured Query Language (SQL)
 - a) Data types
 - b) Creation of new tables and records
 - c) Retrieving records
 - d) Updating tables and records
 - e) Deleting tables and records
 - f) Other SQL functions
5. Analysis of SQL query results

- E. LEARNING OUTCOMES (GENERAL):** The student will be able to:
1. Explain and apply the basic concepts of the relational data model
 2. Explain how relational DBMSs are used in industry and research
 3. Design databases and implement them on a relational DBMS system.
 4. Enter and retrieve information from databases
 5. Create and interpret Entity-Relationship Diagrams
 6. Use SQL commands to create queries.
 7. Analyze query results.

- F. LEARNING OUTCOMES (MNTC):** NA

- G. METHODS FOR EVALUATION OF STUDENT LEARNING:** Methods may include but are not limited to:

1. Tests
2. Assignments
3. Labs
4. Database design and implementation

- H. RCTC CORE OUTCOME(S).** This course contributes to meeting the following RCTC Core Outcome(s):
Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.

- I. SPECIAL INFORMATION (if any):** None