Course Description: Introduction to the relational and semi-structured database models. Theoretical concepts include relational algebra and calculus, logical and physical database design, normalization, database security and integrity, data definition and data manipulation languages. Programming topics: database creation, modification, and querying using MySQL and PHP.

Prerequisites: COSC 220 Computer Science II and MATH 210 Introduction to Discrete Mathematics, both completed, with a grade of C or better.

Required textbook:

Reference books (Optional):

Topics | Weeks
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Data Models and Relational Models | 1.0
Querying on Relational Database | 1.0
Structured Query Language (SQL) | 3.0
The E/R Model and Relational Design Theory | 3.0
From E/R to Relational Designs, Transactions | 2.0
Constraints and Triggers | 1.0
Functional Dependencies, Design of Relational DB Schemas | 1.0
Decomposition, Third Normal Form, Multivalued Dependencies | 1.0
Project Presentation | 1.0

Evaluation
Homework and Programming Project 40%
Midterm and Final Exams 50%
Quizzes and In-class Exercises 10%

NOTE: ONCE A STUDENT HAS RECEIVED CREDIT, INCLUDING TRANSFER CREDIT, FOR A COURSE, CREDIT MAY NOT BE RECEIVED FOR ANY COURSE WITH MATERIAL THAT IS EQUIVALENT TO IT OR IS A PREREQUISITE FOR IT.