Course Name: Database Design I

Course Number: CSC* E231

Credits: 3

Catalog description: A study of the core concepts of relational database design using Structured Query Language (SQL). Topics include the creation, organization, normalization, and maintenance of relational databases and the in-depth use of SQL for querying and manipulating data.

The course requires substantial hands-on work with a modern relational database management system, such as MySQL, in a computerized classroom environment.

Prerequisite: The ability to perform basic file management and word processing tasks using Microsoft Windows

Corequisite or Parallel:

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

None

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:

None

Embedded Competency(ies):

None

Discipline-Specific Attribute Code(s):

☐ **COMP**   **Computer Science Elective**

Course objectives:

General Education Goals and Outcomes:

None

Course Specific Objectives:

1. Design relational databases having many related tables
2. Design relational databases having the proper relationships
3. Design relational databases with correct indexing and key structure
4. Design relational databases with effective data integrity constraints
5. Design relational databases with proper normalization
6. Demonstrate a thorough understanding of Structured Query Language by using it to produce the complex select queries required in a modern business environment
7. Use Structured Query Language to create, update, and manage relational database elements

Course Content:

- Introduction to the relational data base model
- Tables, data types, primary and foreign keys
- SQL syntax
- SQL clauses, expressions, conditions, and operators
- SQL functions.
- Joining tables in SQL
- SQL subqueries
- Advanced optimized SQL queries
- Database normalization
- Table creation and updating
- Data integrity constraints
- Views and stored procedures
- Transactions
- Overview of database administration and database security

Date Course Created:

Date of Last Revision: 04/03/2017