



Course Competency Report by Code

Code: C192

Data Management for Programmers (C192)

Course of Study: C192 - Data Management for Programmers
 Course Level: Undergraduate
 Course Division: Upper Division Major
 Discipline: Information Technology
 Course Type:
 Department: Information Technology

COMPETENCY #	COMPETENCY NAME	COMPETENCY TEXT
4023.1.1	Store Data	The graduate designs a conceptual and logical model for storing various formats and types of data in a database management system (DBMS).
4023.1.2	Use SQL	The graduate applies SQL Data Definition Language (DDL) to create, modify, and drop databases, tables, views, and indexes; employs SQL Data Manipulation Language (DML) to select, insert, update, and delete data in tables in a database management system (DBMS) environment; and programs in SQL Programming Language (PL/SQL) to run persistent applications such as stored procedures, functions, and triggers.
4023.1.3	Distribute Data	The graduate logically and physically distributes data through the design of data warehouses, data marts, and distributed databases.
4023.1.4	Present Data	The graduate applies tools and technologies such as XML, warehouses, and data mining to extract and present data.
4023.1.5	Secure Data	The graduate secures data by designing and implementing access controls and encryption.
4023.1.6	Manage Data Transactions	The graduate manages data transactions through ACID (atomicity, consistency, isolation, durability) properties and concurrency control: serialization, locking methods, deadlock prevention, timestamping, and optimistic techniques.
4023.1.7	Administer Data	The graduate administers data by performing backups, disaster recovery planning, and SQL performance tuning and query optimization.