

R/DBMS Concepts and Design

CDT600

This course consists of a brief discussion of the Systems Development Life Cycle (SDLC) and the placement of Relational Database Design within that cycle. Participants learn to determine data needs and to design relational databases to third normal form (3NF) through two workshops. Participants also learn data modeling through the use of Entity-Relationship diagrams, and the process of transforming those logical models to 3NF tables and finally to relational databases.

Audience

- Programmers
- Systems Analysts

Prerequisites

- Knowledge of data processing and programming

Course Length

- 1 Day

Learning Objectives

- Given a set of reports, determine the data requirements
- Given the data requirements, produce a logical data model (ERD) which satisfies those requirements
- Given a logical data model (ERD), design the necessary tables in third normal form (3NF)

Teaching Methods

- Lecture
 - Hands-on examples
 - Supplemental hands-on exercises
-

Course Outline

QC2

Systems Analysis and Design

- SDLC overview
- Placement of data analysis and design within the SDLC

Workshop-Video Store

- Identifying data elements
- Data Element Cross Reference worksheet
- Record description form
- Data dictionary

Workshop-Community College

- Identifying data elements
- Data Element Cross Reference worksheet
- Record description form
- Data dictionary

Entity-Relationship Diagrams

- Entities
- Relationships
- Cardinality
- Attributes
- Many-to-many relationships

Workshop - ERD for Video Store

Workshop - ERD for Community College

Relational Databases

- Relations
- Candidate keys
- Primary keys
- Composite keys
- Foreign keys
- Normal forms
- Transforming ERD s to relations in 3NF
- Data integrity
- Referential integrity

Workshops - Relations for Video Store

Workshops - Relations for Community College

Introduction to SQL

- Data Definition Language (DDL)
- Data Manipulation Language (DML)