



School of Information Sciences

Title: Introduction to Database Design

Course Number: INF 6460

Credits: 3

Prerequisite(s): None.

Rationale for Inclusion in Curriculum:

A database is an organized collection of related data. In modern society, electronic databases are used to support a wide-range of information management operations and services. Knowledge in database design and applications becomes essential for the success of information professionals in present society.

This course provides instruction on the fundamentals of database design and basics of database implementation with a focus on library and information science practice. Related and current database management technologies will be used for students to have hands-on experiences.

Learning Outcomes:

By the end of the course, students will be able to:

1. Review and articulate database functions and data modeling
2. Master database conceptual design using Entity-Relationship modeling
3. Create conceptual design diagrams using graphic software packages
4. Implement the design using a relational database management system
5. Use Structured Query Language to retrieve and manage information
6. Comfortably use advanced features of a desktop relational database system
7. Access and use remote enterprise database system, which form the basis of all integrated library systems
8. Develop real-world database systems for libraries, museums, publishers, bookstores, and other information organizations
9. Identify basic concerns regarding database control and security
10. Understand the trends of database-related technologies and the application of database technologies to various management activities in libraries and other information organizations
11. Analyze complex information management problems that require database solutions

Content:

The following topics will be covered in this course:

1. Database concepts and architecture
2. Entity relationship model
3. Relational data model
4. Normalization
5. Structured query language
6. Database applications in library and information science
7. Database application issues: control and security
8. Emerging database management technologies

Course Methodology:

The course delivery methodology will include:

1. Lectures,
2. Readings,
3. In-class exercises,
4. Software demonstrations,
5. Lab exercises,
6. Class discussions,

Bases for Evaluation of Student Performance:

1. Assignments applying the concepts covered in the class,
2. Lab exercises,
3. Class participation,
4. Quizzes and exams,
5. Final project of a database designed and implemented.

Text: To Be Determined

Approved: 1/12

Updated: 11/21