CSC 452 - DATABASE APPLICATION DEVELOPMENT

CREDIT HOURS: 3
PREREQUISITES: CSC 340 and 351.
GRADE REMINDER: Must have a grade of C or better in each prerequisite course.

CATALOG DESCRIPTION

Applied study of the logical and physical organization of database systems and their role in information technology. Design and implementation of applications using database management systems. May not be used to satisfy computer science requirements for a major or minor in computer science or computer information system.

PURPOSE OF COURSE

The focus of the course is on application development with fourth generation systems. Applications using a third generation host language and application generators are used to demonstrate concepts and techniques.

EDUCATIONAL OBJECTIVES

Upon successful completion of the course, students should be able to:

1. Demonstrate an understanding of the value of database technology.
2. Design databases.
3. Create database applications.

CONTENT

File and database concepts........................................................................................................................................................................4
  Background, functions of a database management system, overview of database models, architecture, data description language, data manipulation language.

The relational model .......................................................................................................................................................................................6
  Concepts underlying database applications, including basic tables, queries, forms, reports, web interfaces, stored procedures and use of Structured Query Language (SQL).

Database design ............................................................................................................................................................................................6
  Entity relationship diagrams.
  Normalization up to Boyce Codd normal form.
  Recursive relationships.
  Supertypes, subtypes.

Database application development .................................................................................................................................................................16
  Queries, updates, forms and reporting, stored procedures,
  Web interfaces, Programming database applications, Importing/Exporting data.

Database administration and control............................................................................................................................................................5
Distributed databases, Data warehousing, Current topics ................................................................. 5

Exams ...................................................................................................................................................... 3

TOTAL 45

REFERENCES


Gosselin, Kokoska, and Easterbrooks, PHP Programming with MySQL, Course Technology/Cengage Learning, 2011.


