CIS 135DB : DATABASE THEORY/SQL

Transcript title

Database Theory/SQL

Credits

4

Grading mode

Standard letter grades

Total contact hours

50

Lecture hours

30

Other hours

20

Recommended preparation

(CIS 120 or CIS 124 or IC3 certification) and CIS 131.

Course Description

Introduces database concepts. Includes the parts of a database and database management systems as well as database design theory, the concept of normalization, and data models. Introduces SQL and several of the most popular database management systems such as Access, Microsoft SQL Server and MySQL.

Course learning outcomes

1. State the reasons for using a database.
2. State how using related tables helps avoid problems.
3. Know the components elements of a database associated database management systems.
4. Design and produce relational database models using ER diagrams, integrity rules and normalization.
5. Transform ER diagrams into relational designs and apply normalization processes.
6. Use SQL to create, and modify tables as well as retrieve data from one or more tables databases.
7. Learn the reasons for database administration and associated functions.
8. Understand the classifications of applications, specifically web-based, that access databases.
9. Understand the concepts of data-mining, -warehouses -marts and how they pertain to business systems.

Content outline

- purpose of a database - relational databases - database components - entity relationship diagrams - the normalization process - SQL - administrative functions - database applications - data mining and warehousing

Required materials

Students will need regular and reliable access to Microsoft Access.