

Prepared by the Department of Business

Date of Departmental Approval: March 5, 2007

Date approved by Curriculum and Programs: April 9, 2007

Effective: Fall 2007

1. **Course Number:** BIT250
Course Title: Database Design and Development
2. **Description:** Students study and apply the functions of a database management system (DBMS), file systems, the relational model, query by example (QBE), introductory structured query language (SQL), entity relationships, normalization techniques, database design, and multi-user and network considerations. In addition, database administration, advanced database design, disaster recovery, and current trends in database technology are carefully reviewed. Students develop advanced database applications using a Windows-based application such as Microsoft Access.
3. **Student Learning Outcomes (instructional objectives and intellectual skills):** Upon successful completion of this course, students are able to do the following:
 - Explain the theoretical bases for database applications
 - Design relational databases using data normalization techniques to satisfy user requirements
 - Use the advanced features of database management software to implement database designs
 - Manipulate Objects and Properties
 - Enhance databases with switchboards and toolbars using macros and VBA modules
 - Debug database applications
 - Describe the basics of SQL
 - Use entity relationships
 - Comprehend database administration including backup and recovery, security, and multi-user considerations including data integrity, locking, and replication
 - Explain current trends in database technology
4. **Credits:** 3 credits
5. **Satisfies General Education Requirement:** No
6. **Prerequisites:** GIT150
7. **Semester(s) Offered:** Fall
8. **Suggested General Guidelines for Evaluation:** Final grade is based on tests, a final examination, class participation, and hands-on projects.
9. **General Topical Outline (Optional):**
Review of Access: Tables, Queries, Forms, Reports, and Macros; the Relational Model: Query by Example (QBE), Relational Algebra, SQL, and Advanced Topics; Objects and Properties; Database Design: Normalization and Entity Relationships; Functions of a Database Management System; Event Driven Programming and Events; Macros, Menus, and Toolbars; Modules, Functions, Subroutines, Objects, Statements and Methods; Debugging and Maintaining Access Applications; Data Integrity in a Multi-user Environment; and Database Administration.