COURSE OUTLINE

DIVISION: Information Technology
CURRICULUM: Information Technology
COURSE TITLE: Database Development for Programmers
COURSE NUMBER: ITC 220
CREDITS: 5
TYPE: Professional Technical
LENGTH: One quarter
PREREQUISITES: MIC 101, and one of the following: MIC 110, ITC 110, CSC 110, or instructor permission.

COURSE DESCRIPTION: This course is designed to provide programmers with an overview of database theory and systems. It will also provide hands—on experience with relational databases, simple ADO, SQL and XML.

COURSE OUTCOMES: After completing the course Students will be able to:

- Define basic database terms: table, column, row, view, relationship, key, foreign key, normalization, join, recordset, connection, lock, etc.
- Explain the advantages and disadvantages of various Database management systems such as Access, SQL Server, DB2 and Oracle in terms of their application to various situations including the world wide web.
- Explain and diagram the differences among stand alone, client/server and n-tier database models
- Explain the nature and function of business rules
- Create and relate tables
- Use built-in tools and user created functions to validate data and transactions
- Create views(queries) based on multiple tables using various joins
- Use basic ADO to access a database.
- Form and run SELECT, and UPDATE, INSERT and DELETE SQL against a database
- Use SQL to sort, group and summarize data from a database
- Discuss the issues of security in a multiple user database system
- Design a simple well-formed XML document that defines a set of data
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- Discuss the implications and potential of XML as a data standard
- Work together in groups to successfully complete tasks and projects
- Appreciate the diversity of values and experiences within and without the classroom

REQUIRED TEXT: Variable
OTHER REFERENCES: Materials Available on the World Wide Web, handouts, Periodicals, Library resources

TOPICAL OUTLINE:
I. Overview of databases (history, current models, Client/server, n-tier architectures)
II. Basic Database design
III. Creating an Access (or other) database
IV. Tables and relations
V. Field validation
VI. Business rules
VII. Queries from within access
VIII. VB ADO and SQL
IX. VBA (with business rules)
X. Forms and reports
XI. Brief XML overview (as a data definition language)
XII. Issues/choices/ web frontends, security etc.

Created by Steve Conger September, 2000