COURSE TITLE: Data Management

COURSE NUMBER: IST 7000

I. RATIONALE

This course covers the concepts of databases and database usage, database system concepts and architecture, data modeling using the entity-relationship model, record storage and primary file organizations, index structures for files, relational model concepts, SQL-the relational database standard, relational database design, examples of relational database management systems: Oracle, database design, database recovery techniques, database security and authorization, data warehousing and data mining. This course provides an understanding of the issues in managing database systems as an essential organizational resource. Students learn the enterprise data architecture components, data storage configurations, and information retrieval methods. Focus will expand from the relational model to the multidimensional model, and include object-relational techniques, data security and data recovery.

II. MAJOR INSTRUCTIONAL GOALS

GOAL A: Understand concepts covered in class that relate to Data Base Management Systems (DBMS) in a contemporary business environment.

Learning Outcomes: The student will be able to:
A-1 Examine and research topics of current interest specific to data management concepts
A-2 Produce data reports
A-3 Distinguish between data models
A-4 Design a working database

GOAL B: Gain an appreciation of the technologies involved in data-based systems and applications.

Learning Outcomes: The student will be able to:
B-1 Identify through use, data modeling concepts
B-2 Distinguish between database technologies
B-3 Develop queries and reports
B-4 Identify hardware required to support/operate a DBMS environment
GOAL C: Become familiar with data warehousing and data mining concepts

Learning Outcomes: The student will be able to:
C-1 Identify practical applications of data warehousing and data mining
C-2 Identify advantages and disadvantages of data warehousing and data mining systems

GOAL D: Understand the value of Database Recovery and Database Back-up Planning

Learning Outcomes: The student will be able to:
D-1 Describe from a business perspective, the importance of Database Recovery
D-2 Identify strategies and methodologies for backing-up data
D-3 Demonstrate knowledge of requirements for the development of a Database Back-up Plan

III. SUPPLEMENTAL OBJECTIVES

Student must complete the assigned “on-line writing evaluation”.

IV. METHODOLOGY:

Teaching method will include a combination of discussions, readings, and individual research papers. A cooperative and participative learning strategy will be deployed with every expectation that the student will contribute heavily, in a self-directed action-learning mode, to this educational experience. To assist students with research methodologies, *an advanced library orientation is included as part of this course.*

V. CLASS PARTICIPATION:

Students are expected to attend class and participate actively and in a positive way. Questions and relevant observations are encouraged and enrich the experience of the entire class.

Computers in the classrooms are intended to be used as tools to enhance the students' learning experience. Instant messaging, gaming, emailing, and surfing the web are distractions to the student, the surrounding students, and the instructor and constitute inappropriate behavior. Students are ethically obliged to avoid these and similar practices.

VI. CLASS SCHEDULE - OUTLINES – READINGS:

A “structured external assignment” will constitute the closing activity for this course. Students will be asked to submit a topic for instructor approval that integrates IT concepts discussed in class into the student’s vocational or educational interests or workaday environment. Ideally, a “planning paper” will result that is topical, and possesses significant utility within the student’s job-related responsibilities or educational/vocational interests.
Instructor will include weekly outline to reflect what has to be achieved by the student in the 5 hours Out-of-Classroom project (Structured External Assignment) including submission deadline and grading criteria.

Semester = 15 weeks with a reading week at Week 8
Blocks= 7 weeks, with a Reading Week between Blocks I and II.

The syllabus must reflect which preliminary reading all students should complete during the week prior to the start of the course.

Note: Grades are due five (5) working days after your last class session and are to be submitted directly to the registrar.

Note: A cooperative and participative learning strategy will be deployed with every expectation that the student will contribute heavily, in a self-directed action-learning mode, to this educational experience. Students should anticipate that assignments, and this syllabus, will be adjusted to match the pace of the course, the class size, and to meet the needs of individual students.