ISM420 IDEA Objectives: 

WILMINGTON UNIVERSITY
COLLEGE OF TECHNOLOGY
BASIC COURSE INFORMATION

COURSE TITLE: Data Modeling and Warehousing

COURSE NUMBER: ISM 420

I. MAJOR INSTRUCTIONAL GOALS

Goal 1: Demonstrate understanding of the purpose and functionality of data warehouses and data marts.

Learning Outcomes: The student will be able to:
- Define the business drivers for investing in data warehouses;
- Illustrate how data warehouses differ from transactional databases;
- Detail the typical data warehouse architecture;
- Understand the technologies for different types of data warehouses;
- Describe horizontal and vertical fragmentation for data marts;
- Explain the significant role of metadata for data warehouses;
- Comprehend the role of data warehouses and data marts for business intelligence applications including OLAP (online analytic processing) and data mining.

Learning Activities: Assigned readings, exercises, projects, discussion

Learning Assessment: Written exams, assignments, final project

Goal 2: Demonstrate the ability to create data models for transactional databases and data warehouses.

Learning Outcomes: The student will be able to:
- Create and interpret entity-relationship / domain class models for transactional databases;
- Develop and understand dimensional models for data warehouses;
- Explain the difference between data dimensions (reference data) and data facts.
- Understand the reasons and techniques for normalizing data in transactional databases and de-normalizing data in data warehouses.

Learning Activities: Assigned readings, data modeling exercises, projects, discussion

Learning Assessment: Written exams, data modeling assignments, final project
Goal 3: Demonstrate comprehension of the ETL (extract, transform, load) process for consolidating data in data warehouses from multiple operational sources.

Learning Outcomes: The student will be able to:
- Describe the process for extracting data from several different operational databases;
- Illustrate the complexities of transforming data from multiple sources into consistent formats and levels of granularity so that data can be consolidated;
- Explain the process for loading data into the data warehouse.

Learning Activities: Assigned readings, exercises, projects, discussion

Learning Assessment: Written exams, assignments, final project

II. 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.