

## ICEE 3020: Information Systems Engineering

This course is required for all Engineering majors.

### Course Coordinator:

BJ Kim

### Catalog Description:

Introduces the fundamental concepts and implementations of the relational database systems, including data structures, data manipulation, relational models, and the structured query language (SQL). Discusses the Entity- Relationship (ER) model and the Object-Oriented (OO) model. Includes basic computing platforms, software architectures, and file systems. Introduces integration and acquisition of information for management of information systems.

### Course Structure:

Two 75-minute lectures (three credits)

### Prerequisites:

ICEE 2060

### Required Materials:

- *Database Systems – Design, Implementation, and Management*, 7<sup>th</sup> Ed., Peter Rob and Carlos Coronel, Thomson Course Technology, 2000. (ISBN 1-418-83593-5)

### Course Objectives:

Upon completion of this course, students shall be able to:

- Understand data modeling
- Know the database models
- Know how to perform data model schema analysis
- Know the basic use of SQL
- Understand client/server basics
- Use ACCESS
- Use information technology to support decision making

### Lecture Topics:

- Procedural Programming Basics (3 classes)
- Information Systems and Database Design (3 classes)
- Information Technology and Excel (3 classes)
- Database Systems (2 classes)
- Database Modeling (2 classes)
- Relational Database (2 classes)
- Entity-Relational Model (2classes)
- Normalization (3 classes)
- Microsoft Access and Object Design (3 classes)
- Microsoft Access and Table Design (3 classes)
- Microsoft Access and Query Design (3 classes)
- Microsoft Access and Report Design (3 classes)
- Microsoft Access and SQL (3 classes)
- Microsoft Access and Data Import (3 classes)
- Microsoft Access and Data Archive (3 classes)
- Microsoft Access and Data Retrieval (3 classes)

Relevant Program Outcomes:

Graduates of the BS in Engineering Program will demonstrate:

k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Professional Component Content:

Math/Science: 0;      Engineering: 3 cr;      General Education: 0

Assessment Requirements:

Student Work Samples:

- Homework, Quiz, Test (Outcome k)

Student Course Survey

Last Review:

November 1, 2007 by BJ Kim