

SPECIAL TOPICS
ECE 487 – Database System Implementation

Type (check one): Required: _____ Elective: X

2005-2006 Catalog Data: ECE 486. Special Topics. Elective courses of special or current interest. Usually taught by visiting faculty with special or unique qualifications. Normally taken by Seniors. Prerequisites are announced with course offerings. *One semester; three credits.*

ECE 487: Database System Implementation. Credits 3. File organization and access, buffer management, performance analysis, and storage management. Database system architecture, query optimization, transaction management, recovery, concurrency control. Reliability, protection, and integrity. Design and management issues

Textbook: Hector Garcia-Molina et al., Database Systems: The Complete Book, Prentice Hall, New Jersey, 2002.

Other Required Materials: None

Instructor: Dr. Juan Carlos Olabe-Basogain, Professor of Electrical and Computer Engineering.

Course Objectives: The objective of this course is to teach the fundamentals of database implementation, including storage structures, query processing, and transaction management.

Topics:

- 1 Introduction to Database Systems.
- 2 Hardware
- 3 File and System Structure
- 4 Indexing and Hashing
- 5 Query Processing
- 6 Crash Recovery
- 7 Concurrency Control
- 8 Transaction Processing
- 9 Information Integration
- 10 Review
- 11 Tests.

Class Schedule: Three 50-minute sessions per week

Prepared by: Dr. Juan Carlos Olabe-Basogain **Date:** October 2005