

COP4710 – Database Management Systems

Kien A. Hua

Office: HEC 229

Database management continues to gain importance as more and more data is brought on-line, and made ever more accessible through computer networking. Today the field is being driven by exciting visions such as multimedia databases, interactive video, digital libraries, a host of scientific projects such as the human genome mapping effort and NASA's Earth Observation System project, and the desire of companies to consolidate their decision-making process. Commercially, *database management systems* (DBMS) represent one of the largest and most vigorous market segments.

This course is the first in a sequence of four database courses (COP4710, COP5711, COP6730, COP6731) at UCF. We will concentrate on *relational systems*, which are by far the dominant type of DBMS today. The objective of this course is to prepare the students for database application development and studies at more advanced levels. The students are expected to gain an in-depth knowledge of database technology, and become proficient at development of database applications suitable for Internet deployment. The following topics are discussed in this course:

- Entity-Relationship Model
- Relational Model
- Relational Algebra and Calculus
- Structured Query Language (SQL)
- File Organizations & Indexing
- Query Optimization/Evaluation
- Internet Computing
- Database Application Development
- Schema Refinement and Normal Forms
- Transaction Processing

Text: Database Management Systems
by *Raghu Ramakrishnan* and *Johannes Gehrke*

Recommended reference:

“Learning PHP, MySQL & JavaScript: With jQuery, CSS & HTML5”
by Robin Nixon (4th edition)

Class Notes: Available at <http://www.cs.ucf.edu/~kienhua/classes/>

Time & Location: Tuesday and Thursday, 1:30 – 2:45pm, MSB 359.

Office Hours: Kien Hua: Tuesday and Thursday, 3:00 ~ 4:00pm
Yang Zhang (GTA) - Email address: yangzhang@knights.ucf.edu

Grading Policy: Test 1 - 30% Team Project - 20%
Test 2 - 30% Homework - 20%

NOTE: “+/- “ grades will be used

Important Dates:

- Withdrawal deadline is Wednesday, March 23, 2015.
- Class ends on April 26, 2015.
- Final exam: <http://registrar.ucf.edu/exam/2015/spring>
- Spring holidays are January 18, 2016 (Martin Luther King Jr. Day) and March 7-12, 2016 (Spring Break).