CS 2550: Principles of Database Systems (Spring 2006)
Department of Computer Science, University of Pittsburgh

Course Reference Number (CRN): 12917

When: Tuesdays & Thursdays, 2:30 pm – 3:50 pm

Where: Room 5313, Sennott Square Building (the Reading Room)

Instructor: Prof. Alexandros Labrinidis

Email:	labrinid@cs.pitt.edu	Office hours:	Tuesday:	4:00 – 6:00 pm
Web:	http://www.cs.pitt.edu/∼labrinid		Thursday:	1:00 – 2:30 pm
Office:	6105 Sennott Square			
Phone:	412-624-8843			

Graduate Teaching Assistant: Subrata Acharya

Email:	sacharya@cs.pitt.edu	Office hours:	Monday:	1:00pm – 3:00pm
Web:	http://www.cs.pitt.edu/∼sacharya		Wednesday:	1:00pm – 3:00pm
Office:	6150 Sennott Square			
Phone:	412-624-8464			

Course Description: The main objective of this course is to provide an in-depth knowledge of Database Management Systems design. Important aspects of distributed database systems will also be covered.

Prerequisites: Knowledge of data structures and files, basic operating systems concepts, and exposure to data models (i.e., CS1555 or its equivalent). Working knowledge of Java or C/C++ and familiarity with Unix are assumed.

Class Web Page: http://db.cs.pitt.edu/courses/cs2550/spring2006
All handouts and class notes will be published on the class web page. You are expected to check this page frequently (at least twice a week). The instructor's home page will also have a link to the class web page.

Textbook: *Database System Concepts*, **5th Edition**, by A. Silberschatz, H. Korth and S. Sudarshan.
(c) 2005 McGraw Hill, ISBN: 0-07-295886-3.

Reference: Additional papers will be provided online to emphasize/give more details on certain topics.

Course Grading:

Assignments	50%	There will be 4-6 **assignments/projects**, most of which will have a significant programming portion.
Exam #1	25%	**Tuesday, February 21st**, 2:30pm – 3:45pm (SENSQ 5313)
Exam #2	25%	**Tuesday, April 18th**, 2:30pm – 3:45pm (SENSQ 5313) The second exam will cover the material that was not covered in the first exam. There will not be a final exam. There will be no classes during finals week.

Preliminary Exam Information: This course is also part of the PhD Preliminary Examination for the Department of Computer Science. The grade of the two exams will determine whether you have passed the Preliminary Examination or not. If you are taking the Preliminary Examination you must be assigned a student number from the Graduate Program Office (Ms. Loretta Shabatura), so that your exams are graded anonymously.

Class Mailing List: All students must subscribe to the class mailing list, so that they receive time-sensitive information from the instructor and TA. You will be automatically added to the mailing list.

[please turn over]

Note on Email Communication: **(NEW - please read carefully!)**

You should **send all email** regarding class matters to **cs2550-staff@cs.pitt.edu**. Your email will go to the instructor and the graduate TA. If you have a confidential matter, then please email the instructor directly, but make sure to include the keyword `cs2550` in the subject line of your email messages. We will make every effort to respond to all email requests within one business day at the latest.

Grading Policy:

Unless explicitly noted otherwise, the work in this course is to be done independently. Discussions with other students on the assignments should be limited to understanding the statement of the problems (except when assignments are to be done in groups in which case it is expected of members of the same group to work together). **Cheating in any way, including giving your work to someone else, will result in an F for the course and a report to the appropriate University authority.** Submissions that are alike in a substantive way will be considered to be cheating by ALL involved parties. Please protect yourselves by only storing your files in private directories, and by retrieving all printouts promptly.

All assignments must be submitted electronically. Grades can be appealed up to two weeks after they have been posted; no appeals will be considered after that time.

Late Policy: A late assignment will receive a deduction of 5 points if it is up to one day past the deadline and 15 points if it is up to two days past the deadline. An assignment which is more than 2 days late will be accepted *only* under special circumstances with the instructor determining the penalty in a fair manner.

Make-up Policy: Students are expected to be present for all exams and quizzes. Make-up exams will only be given in the event of an emergency, and only if the instructor is informed **in advance**. Failure to notify the instructor prior to missing an exam will result in a zero for the exam.

Students with Disabilities:

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services, 216 William Pitt Union, 412-648-7890 or 412-383-7355 (TTY) as early as possible in the term. DRS will verify your disability and determine reasonable accomodations for this course. Their web site is `http://www.drs.pitt.edu`.

Religious Observances:

In order to accommodate the observance of religious holidays, students should inform the instructor of any such days which conflict with scheduled class activities within the first two weeks of the term by emailing the instructor.

Outline:

A detailed reading guide will be published on the web page, along with the class notes and additional online articles and resources. Time permitting, we will cover the following topics:

1. Introduction to Database Systems and Data Models
2. Physical Database Organization
3. Query Processing and Optimization
4. Transaction Management; Serializability Theory
5. Concurrency Control (including Multiversion & Distributed Concurrency Control)
6. Recovery Concepts and Techniques
7. Introduction to Distributed Database Systems
8. Data Replication
9. Advanced Data Management Topics

[Last updated on January 5th, 2006]