**Day 1 (6 September, 2008)**

After a brief introduction, we will cover fundmental relational database theory. Relational model and SQL will be the main topics. After that, we will move on to the database design part and cover E-R model.   
  
Information and requirements on the mini-project will be explained in the introduction. Exam will also be explained a bit, but more details will be available when the date approaches.

**Slides**

* Introduction (1) , Relational Model (2), SQL (3), E-R Model (6)

**Day 2 (13 September, 2008)**

On this second day, we start with the logical design of database. This will be focused on the normalization theory. Funcational dependency, various norm forms, and normalization using norm forms will be explained in detail.   
  
Then we go to the physical design phase. We will see how data is organized and stored in disk files, and how data can be indexed by different indices.   
  
Finally, we we discuss query processing and optimization. Query processing is about how to access data from a database. Different queries are to be handled in different ways, based on the availability of indices. When there exist several plans for processing a given query, we usually select the most efficient one. This process is called query optimization.

**Slides**

* Normalization (7), Physical Design (11, 12), Query Processing and Optimization (13, 14)

**Day 3 (4 October, 2008)**

On this third day, we focus on transaction management in database systems. A transaction is a collection of several operations on the database that appear to be a single unit from the point of view of the database user.   
  
We will start with basics of transactions: concepts, state, properties. Then we will study concurrency control, which is supposed to handle multiple concurrent transactions on the same database. Several protocols and schemes will be introduced. Finally, we will study the recovery in database systems, which is able to restore the database to a consistent state before a failure.

**Slides**

* Transactions (15), Concurrency control (16), Recovery (17)