1 Course Description

1.1 From the Course Catalog

Databases underlie many of the applications with which we interact on a daily basis. They form the foundation behind many websites, telecommunications systems, banking systems, and any applications that need to maintain persistent data. This course will explore the design of modern databases for storing structured data. We will discuss the relational data model and relational algebra. Other key topics will include index data structures, views, transactions, and online analytical processing. The course will also consider the design of NoSQL databases and the implications of the CAP theorem.

1.2 In other words...

This course is about how databases work. We will also see how to use a database as the back-end to a web-based application and we will use SQL, but the focus of the course will be on the many interesting algorithmic challenges inherent in designing a database management system.

2 Course Webpage

The course webpage is at: [http://www3.amherst.edu/~cvalentine/COSC251.html](http://www3.amherst.edu/~cvalentine/COSC251.html). I do not use Moodle in my classes. I will post all of the assignments and occasional announcements on the course webpage.
3 Course Format

We will have 3 meetings per week. If I ever need to cancel a meeting due to travel or weather, I will post an announcement on the course webpage.

4 Assignments and Exams

There will be problem sets, programming assignments, and one or two exams.

5 Grading

Semester grades will be calculated according to the following schedule.

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<td></td>
<td>30% exam(s)</td>
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<td>30% programming assignments</td>
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<td>40% problem sets</td>
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Late assignments will receive a failing grade. No exceptions.

6 Policy on use of Computers, Tablets, and Phones during Lectures

Put away and turn off all computers, tablets, and phones during the class lectures unless instructed otherwise.

7 Text Book

The text book for this class is *A First Course in Database Systems, 3rd Edition* by Ullman and Widom. It is available in the library as well as on Amazon.

8 Office Hours

If you have any questions about the class or need any help understanding concepts, please come and see me. My office is in 405 Seeley Mudd on the 4th floor. My office hours are Thursdays from 9-11 AM. I can also be available to chat with you by appointment or any time my office door is open.