INF 202 Introduction to Data and Databases (Spring 2012)

Instructor: Tianchi Zhang
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TA: TBD

Meeting Times: TTH 10:15AM – 11:35AM
Meeting Place: SLOG12
Office Hours & Place: T 12:30PM - 4:30PM  AS-B10
TA Office Hours: TBD

Catalog Description
This course will examine basic principles of data and databases, with an emphasis on relational database modeling. Topics such as database design, creation, and maintenance, user interface, and SQL queries will be presented from an end-user perspective.

A More Detailed Description
This is a hands-on course on data and databases that also emphasizes an understanding of the theory underlying relational databases. The course deals with the analysis and design of databases as well as querying such databases to extract information needed by users.

By the end of the semester, you should be able to

- Analyze simple, typical real-world situations where databases are used and build models of relational databases
- Design relational databases for simple real-world situations to avoid anomalies
- Formulate simple queries in the structured query language (SQL)
- Use the software Microsoft Access in the modeling as well as design of relational databases for simple domains

Textbooks

- **Required:**

- **Recommended:**
  This is available online free through the library at library.albany.edu (Databases & Indexes → Safari Tech Books Online → Databases & Reporting Tools → cc: The Missing Manual).
Grading:

30%  Homework/Labs
10%  Pop-Quizzes/Attendance
20%  Midterm
20%  Final Exam
20%  Final Project

100%  Total

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
<td>Scale</td>
<td>95-100</td>
<td>90-94</td>
<td>86-89</td>
<td>83-85</td>
<td>79-82</td>
<td>75-78</td>
<td>71-74</td>
<td>68-70</td>
<td>60-67</td>
<td>0-59</td>
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Grading in the course will be relative. I'll add your scores on the various components of the course and arrange the class in descending order of the total score in the course. The letter grades will reflect this ranking.

Attendance:
Attendance is essential for keeping up with the class. Students who miss classes or show up late will lose credits.

The lowest two grades in homework, labs, or quizzes will be dropped to allow students flexibility to deal with sickness, job interviews, and other personal issues preventing them from attending some classes. Any other excuses for missing classes & assignments require permission from the undergraduate dean's office.

Labs, Homework, Pop Quizzes, Midterm, Final Exam, and Final Project:

- **Labs:** The objective of the labs is to gain better understanding of the concepts explained in the class by using database/spreadsheet software. Many classes during the semester will be Labs where assignments will be given. They are due at the MIDNIGHT of the scheduled date.
- **Homework:** Occasionally, homework may be assigned, collected, and graded. The objective of the homework is to practice the concepts discussed in the class. Each homework will be specified when they are due.
• **Pop Quizzes:** Occasionally, there will be unannounced quizzes in the class. You are expected to have read and understood the concepts covered in the class.

• **Midterm and Final Exam:** These will be paper-based exams and will test the concepts and their applications as covered in the class. They will consist of problems, short cases, and some multiple choice problems. The parts of the course covered for each exam will be announced in the class at least two weeks prior to the exam date. **Review classes will be held the classes before midterm and final exam.**

• **Final Project:** The objective of this project is to provide you an opportunity to apply the concepts studied during the semester in a real-world application. Details of the project will be provided during the semester.

**Academic Dishonesty, Reasonable accommodation in case of disabilities:**
Any cases of plagiarism and academic dishonesty will be reported to the office of Judicial Affairs. Please read the University Undergraduate Bulletin for the policies. They will be followed rigidly. Please read and familiarize your self with all the information on university policies at:

http://www.albany.edu/undergraduate_bulletin/regulations.html

Please notify the Director of Disabled Student Services (Campus Center 137, Phone: 442-5490) where appropriate. Reasonable accommodation will be provided for those students.
Class Schedule

Week 1 (1/19)
Class Syllabus & permission number

Week 2 (1/24, 1/26)
Theme: Introduction (Ch.1)
Concepts: Data vs. Information, Metadata, Entities, Relationships, Data modeling
Access: MS Access overview

Week 2 & 3 (1/31 ~ 2/9)
Theme: Modeling Data in Organizations (Ch.2)
Access: Tables and Metadata

Week 4 & 5 (2/14 ~ 2/21)
Theme: The Enhanced Entity-Relationship Model (Ch.3)
Access: Forms and Reports

Week 5 & 6 (2/23, 2/28)
*** MIDTERM EXAMINATION (Feb 28, Tue) ***
Midterm review class: Feb 28
Week 6, 7, 8, 9 & 10 (3/1 ~ 4/3)

**Theme:** *Database Design (Ch.4)*


**Access:** Creating Relationships

Week 11, 12, 13 & 14 (4/5 ~ 4/26)

**Theme:** *Structured Query Language (SQL) (Ch.6, 7)*


**Access:** Query and SQL

Week 15 (5/1, 5/3)

*** IN CLASS PROJECT PRESENTATION ***

Week 16 (5/8)

*** FINAL EXAMINATION (May 8) ***

10:15pm – 11:35pm

Final exam review class: May 3

Final project will due on the midnight of May 3

Additional SQL project will due on May 8