

CMPT 354 –Database Systems I (Section D100)

Fall 2010
SFU, Burnaby

Class Time and Location: Tue 14:30-16:20 AQ3005
Thu 14:30-15:20 AQ3003

Course Website: <http://www.cs.sfu.ca/CC/354/rfrank/schedule.html>

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Calendar Objective/Description

Logical representations of data records. Data models. Studies of some popular file and database systems. Document retrieval. Other related issues such as database administration, data dictionary and security.

Instructor's Objectives

This first database course will provide an introduction to DBMS. We will focus the most widely used relational data model, and introduce several core concepts in relational data models. The emphasis of this course is on the design of database applications and use of databases. Design tools, database modeling and query languages are the focus of this course.

Required Text

- 1) Database Management Systems, third edition., Raghu Ramakrishnan, Johannes Gehrke, McGraw Hill, 2002 (9780072465631)

The book has a complimentary website with lecture slides, solutions to odd numbered exercises. The website is: <http://pages.cfs.wisc.edu/~dbbook/>

Software/Programming Requirements

Although there will be theory/conceptual questions on the assignments, we will also apply the course material in a practical setting, and thus some assignment questions will require programming. Programs must be written in VB.NET or C# as part of Visual Studio (VS) 2010, or below, package. The database component must be SQL Server 2008 R2, or below. Express [free] editions of both these software are available at <http://www.microsoft.com/express/downloads/> and via CS@SFU.

Some assignments will require programming a stand-alone application, and others a web-based application (both can be done via VS). The entire VS Project, and the corresponding database, must be submitted as part of the assignment. Code must be documented to a level sufficient to easily understand the code. This means document what the INPUT and OUTPUT are, along with any sections of code that are not obvious. Do not write a book.

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Lecture Schedule

	Week of	Lecture Topic	Due
1	Sept 7, 9	Introduction to Course - Overview of DBS [Ch 1]	
2	Sept 14, 16	Database Design [Ch 2]	Assignment #1
3	Sept 21, 23	Relational Model [Ch 3]	Assignment #2
4	Sept 28, 30	Algebra [Ch 4]	Assignment #3
5	Oct 5, 7	Queries [Ch 5]	Assignment #4
6	Oct 12, 14	Review of Ch3.1 & Transactions [Ch 16.1-16.4] <i>Exam Review</i>	Assignment #5
7	Oct 19, 21	Midterm Exam	
8	Oct 26, 28	Server Architecture [Ch 7.5] Standalone Application Development [Ch 6]	Assignment #6
9	Nov 2, 4	Standalone Application Development [Ch 6] Security [Ch 21.1-21.3]	Assignment #7
10	Nov 9	Internet Application Development [Ch 7]	Assignment #8
11	Nov 16, 18	XML Query Language [Ch 27.5-27.8]	Assignment #9
12	Nov 23, 25	Data Warehousing [Ch 25]	Assignment #10
13	Nov 30, Dec 2	Various Topics: - Parallel Databases [Ch 22.2] - Distributed Databases [Ch 22.6-22.8] - Deductive Databases [Ch 24.1-24.2] - Data Mining [<i>quick overview of Ch 26</i>] - Spatial Data [Ch 28.1-28.2]	Assignment #11
14		Final Exam	

All assignments are due immediately before class on the Thursday of the week indicated on the assignment. For example, Assignment #1 is due on September 16 at 14:30. For electronic submissions, submit your solution to the online submission server. For paper assignments, hand in hard copies of your assignments before lecture.

There are in total 11 assignments, all worth 5%. At the end of the course, the best 10 of 11 assignments will make up the Individual Assignment portion of your course grade.

All paper-based submissions should be 1.5-spaced, 1" margins, size 10 font. Page requirements include all references, images/diagrams, but not cover pages.

Course Evaluations

Individual Assignments	50%
Midterm Exam	20%
Final Exam	30%

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Student Conduct In Class Policy

Any acts of classroom disruption that go beyond the normal rights of students to question and discuss with instructors the educational process relative to subject content will not be tolerated, in accordance with the Academic Code of Conduct described in the Student Handbook.

Electronic Devices In Class Policy

Cellular phones, ipods and similar devices are not allowed during lecture times. Cell phones are to be put in silent mode and not answered during lecture time unless you have a situation requiring you to answer a call. If this pertains to you please notify me that you may need to take a call. Ipods may be used at lab times in the classroom as long as is not a disturbance to others.

Penalty for Late Submissions

- The exact date and time of your submission will be recorded in the assignment submission web site.
 - Students submitting their assignments late will have 20% of the total marks deducted for each working day thereafter, up to a maximum of five working days, at which point a mark of zero will be recorded.
 - The exemption from penalties for the late submission will be granted if there is a clear evidence of exceptional extenuating circumstances.
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SIMON FRASER UNIVERSITY

Policies and Procedures as of May 1, 2009

Policy S 10.01 - 4.1.2 Forms of Academic Dishonesty

The following acts or omissions constitute academic dishonesty and are prohibited.

- 1 Plagiarism, including:
 - a submitting or presenting the work of another person, including artistic imagery, as that of the student without full and appropriate accreditation;
 - b copying all or part of an essay or other assignment from an author or other person, including a tutor or student mentor, and presenting the material as the student's original work;
 - c failing to acknowledge the phrases, sentences or ideas of the author of published and unpublished material that is incorporated into an essay or other assignment.
 - 2 Submitting the same, or substantially the same, essay, project, presentation or other assignment more than once, whether or not the earlier submission was at Simon Fraser University or another institution, unless prior approval has been obtained from the instructor to whom the work is being submitted.
 - 3 Cheating in an examination, including
 - a the unauthorized sharing of material such as textbooks during an "open book" examination;
 - b concealing information pertaining to the examination in the examination room, or in washrooms or other places in the vicinity of the examination room;
 - c using course notes or any other aids not approved by an Instructor during an examination;
 - d the unauthorized possession or use of an examination question sheet, an examination answer book, or a completed examination or assignment.
 - 4 Submitting as one's original work an essay, project, thesis, presentation or other assignment, or part thereof, that was purchased or otherwise acquired from another source, unless the work is commercially available data, images, or other intellectual property the source and acquisition of which is properly and fully described and cited by the student and approved by the course Instructor or supervisor.
 - 5 Cheating in assignments, projects, examinations or other forms of evaluation by:
 - a using, or attempting to use, another student's answers;
 - b providing answers to other students;
 - c failing to take reasonable measures to protect answers from use by other students; or
 - d in the case of students who study together, submitting identical or virtually identical assignments for evaluation unless permitted by the course Instructor or supervisor.
 - 6 Impersonating a candidate or being impersonated in an examination.
 - 7 Falsifying material that is subject to academic evaluation.
 - 8 Submitting false records or information, in writing or orally, including the falsification of laboratory results or research findings.
 - 9 Engaging in misrepresentation, including falsifying documents, to gain a benefit or advantage in a course including the submission of a forged or altered medical certificate or death certificate.
 - 10 Engaging in any action intended to disadvantage students in a course including destroying, stealing, or concealing library resources.
 - 11 Stealing, destroying or altering the work of another student.
 - 12 Unauthorized or inappropriate use of computers, calculators and other forms of technology in course work, assignments or examinations.
 - 13 Misconduct in research as defined in Policy R 60.01.
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