

Course Syllabus: IT 4153 Advanced Database

Southern Polytechnic State University

Jack Zheng, Spring 2012
Last updated: Jan 8, 2012

Note

This syllabus provides a general guideline for the conduct of this course. However, deviations may be necessary and will be notified during the semester.

Course Description

This course will study more advanced features of databases in design, administration, and applications. Topics include advanced data modeling and design, implementation, database scripting, database transaction, database security, database maintenance, and data warehouse.

Course objectives

1. Understand and describe current and emerging database models and technologies.
2. Design and implement relational database solutions for general applications.
3. Develop database scripts for data manipulation and database administration.
4. Understand and perform common database administration tasks, such as database monitoring, performance tuning, data transfer, and security.
5. Understand the concepts and practices of data warehouse and OLAP.

Course features

1. Hands-on experience and training with SQL Server 2008.
2. A project allows students to explore their own interests and learn from the unique experience.

Prerequisites

1. CS 3153 Database Systems.
2. Hands-on experience with Oracle or My SQL.

Class meet location and time

CRN 2036: M W 2:00PM - 3:15PM, J-260

Instructor

Jack G. Zheng, Assistant Professor, IT Department

Contact

Office: J-393A Phone: 678-915-5036
Email: jackzheng@spsu.edu

Office hours

In office (J-393A)	W	10:00AM - 12:00PM
	TH	10:00AM - 4:00PM

Email Policy

1. Email is a great way of communication if you write the email subject like this:

it4153 – your real subject

2. Per FERPA regulation, please use your university email to communicate with instructors. This can verify your identity and protect privacy. I reserve the right not to reply any email that I cannot verify sender's identity.

Emails without proper subject line or unverified sender address are likely to be categorized as spam, and are NOT guaranteed to be replied.

Course Materials and Resources

Course websites

- GeorgiaVIEW Vista <https://spsu.view.usg.edu>
 - It's important to know how to use GeorgiaVIEW for: submitting assignments, checking grades and feedback, downloading protected files, participating discussion boards, etc.
 - Please check GeorgiaVIEW discussion boards regularly for important announcements and other issues.
- <http://jackzheng.net/teaching/it4153> (Bookmark it!)
 - This public website is for course schedule, lecture notes, live examples, other public materials and resources, etc. Lecture slides and other materials will be posted in each corresponding week regularly. Check the site regularly for new materials!

Textbook

- Required textbook: no required textbook this semester
- Recommended books and readings (highly recommended based on your need!)
 - Database Administration: <http://www.amazon.com/dp/0201741296>
 - Database Modeling and Design: <http://www.amazon.com/dp/0123820200>
 - Choose one book on SQL Server 2008 for your reference:
 - SQL Server Books Online: <http://msdn.microsoft.com/en-us/library/ms130214.aspx>
 - Microsoft SQL Server 2008 R2 Unleashed: <http://www.amazon.com/dp/067233092X>
 - Mastering SQL Server 2008: <http://www.amazon.com/dp/047028904X>
 - Microsoft SQL Server 2008 Bible: <http://www.amazon.com/dp/0470257040>

Required software/hardware

- SQL Server 2008 Developer Edition and Visio 2010 (downloadable from MSDNAA)
- Other software: software that can open PDF files and ZIP files.

Other good readings and resources

- Understanding Database Administration: <http://www.amazon.com/dp/1450500919>
- DBA Survivor: <http://www.amazon.com/dp/1430227877>
- Other readings and resources on specific topics will be suggested and posted in the online schedule.

Course Conduct

Topics and Schedule

The following schedule is only an overview of the course structure. For the detailed and updated schedule, check the schedule webpage and GeorgiaVIEW regularly.

Week	Topics
1	Introduction
2	Database basics review
3	Advanced modeling and design
4	SQL Server Implementation
5	Advanced data query
6	XML in database
7, 8	Midterm test, review, project meetings
9	Spring Break
10	Database programmability
11	Data integrity
12	Database performance
13	Data integration
14	Database security
15	Data warehouse and OLAP
16	Project presentations and reports

Grading

Item	Points	Your Total Points	Grade
Tests (2)	30	=>90	A
Labs and Assignments (6)	40	=>80	B
Design/Research Project (1)	30	=>70	C
		=>60	D

More details about each assignment and exam will be provided later.

Participation and attendance

There are two aspects of participation:

1. Class attendance is expected and anticipated. Some of the discussions and exercises are done and graded in-class so you must attend class to receive these points. All in-class activities are important to your learning and the tests. It's difficult for you to "make up" the experience of a class. There will be no make-up if you missed in-class activities, without prior and proper written notifications.
2. Your activities in the GeorgiaVIEW discussion boards reflect your online participation, and somewhat complement in-class participation.

Student work submission

All assignments will be posted in GeorgiaVIEW. Submission instructions will be given for each individual assignment. Not following these submission instructions will result in point deduction. Check GeorgiaVIEW for the due date of each required submission. Generally, no submission is allowed outside the GeorgiaVIEW system unless explicitly instructed to do so. **Be sure to submit the work well ahead of due time. Excuses like website or computer error will not be accepted after the due date.**

Bonus points

There will be a maximum of 5 bonus points to your overall grade. Bonus points are offered with assignments and exams. Details will be given in corresponding assignments and exams.

Re-grading

Grades will be posted in GeorgiaVIEW, generally within a week from the due date. If you think there is an error, make a re-grading request by e-mail within one (1) week of grade posting. Please make a follow-up appointment (via e-mail) to meet the instructor during office hours for review of the results of any reassessment. A request for reassessment will not be granted if more than two weeks have passed since the grade in question was posted. Check your grades in GeorgiaVIEW regularly.

Curve

The instructor reserves the right to decide if there will be any curving of grades and how much per each grading item.

Make-ups

NO make-ups will be given if you miss a test or an in-class exercise for reasons other than a documented religious observance, a documented illness, or a documented work-related reason.

Communication

The best communication is face to face communication in the classroom and my office. We can also use emails, discussion boards, office phone, and GeorgiaVIEW Chat when we cannot meet face to face.

Announcement

Important announcements will be made to the class electronically through the GeorgiaVIEW "Discussion Board" as well as in class sessions. It is important that you check your GeorgiaVIEW account regularly for announcements, new assignments, grade postings, and other discussions.

Other Policies

Academic Honesty

Students may have general discussions about assignments with fellow classmates, but each student must develop his or her solution to the assignments, unless assignments are identified as team projects. Students may not 'share' work in any form or any portion of an assignment except on team assignments. It is each student's responsibility to keep his/her own work secure. Failing to adequately protect one's work does not relieve the student from academic dishonesty charges.

University regulations will be enforced regarding dishonorable or unethical conduct (Cheating, Plagiarism, Falsification, Unauthorized Collaboration or Multiple Submissions). The penalties for incidents of academic dishonesty can lead to expulsion from the University. In this class, there will be zero tolerance for dishonorable or unethical conduct. Electronic or physical sharing of answers will be considered cheating and will not be tolerated.

Cheating on examinations involves giving or receiving unauthorized help before, during, or after an examination. Examples of unauthorized help include sharing information with another student during an examination, intentionally allowing another student to view one's own examination, and collaboration before or after an examination which is specifically forbidden by the instructor.

Plagiarism is presenting another person's work as one's own. Plagiarism includes any paraphrasing or summarizing of the works of another person without acknowledgment, including the submitting of another student's work as one's own. Plagiarism frequently involves a failure to acknowledge in the text, notes, or footnotes the quotation of the paragraphs, sentences, or even a few phrases written or spoken by someone else. The submission of research or completed papers or projects by someone else is plagiarism, as is the unacknowledged use of research sources gathered by someone else. Failure to indicate the extent and nature of one's reliance on other sources is also a form of plagiarism. Any work, in whole or part, taken from the Internet or other computer based resource without properly referencing the source (for example, the URL) is considered plagiarism. A complete reference is required in order that all parties may locate and view the original source. The student is responsible for understanding the legitimate use of sources, the appropriate ways of acknowledging academic, scholarly or creative indebtedness, and the consequences of violating this responsibility.

Submission for academic credit of a work product, or a part thereof, represented as its being one's own effort, which has been developed in substantial collaboration with assistance from another person or source, or computer based resource, is a violation of academic honesty. It is also a violation of academic honesty to knowingly provide such assistance. Collaborative work specifically authorized by an instructor is allowed. (Collaboration on all individual assignments is forbidden. If your instructor discovers that you have had unauthorized assistance or collaboration, the instructor is obligated to file a report with the Dean's Office.)

If a student is charged with Academic Dishonesty, for each charge, a zero (0) will be given for the assignment, a minimum of 10% of total points will be deducted from the final course total points and a written Notice of Academic Dishonesty will be given to the Dean's office. The student will also receive a copy of the notice.