UNIVERSITY of **HOUSTON**

COLLEGE of TECHNOLOGY

DEPARTMENT OF INFORMATION AND LOGISTICS TECHNOLOGY

CIS 4338 – Database Administration and Implementation, Fall Semester 2012 Section 20372

Section 20372 • M 7 – 10:00 pm • 3 credit hours

Course Description:	Cr. 3. (3-0). Prerequisites: CIS 3355, 3365, and Computer Information Systems major or minor, or consent of program manager or program coordinator. Database implementation for a multi-user environment, including usage analysis, database application development, and query optimization.
Course Goals:	CIS 4338 is a one-semester, senior level course that examines the process of implementing and administering enterprise level database solutions to serve information requirements for an organization.

Students learn to:

- use standard SQL to
    1. create database structures (DDL subset of SQL)
    2. query, insert, change, and delete data in databases (DML subset of SQL)
    3. control access to data in databases (DCL subset of SQL)
- use platform-specific SQL extensions to standard SQL to
    1. implement and administer databases
    2. manage multi-user access to databases and database objects
    3. develop views, stored procedures, triggers and user-defined functions to create complex database functionality for front-end developers and users
- understand and describe the organizational role of a database administrator and describe performance issues related to database administration tasks including issues of
    1. data availability
    2. data quality
    3. data retrieval
    4. data recovery

5.   data privacy and security
6.   data integrity and concurrent users.

When a student completes the course, he or she will be able to:

- understand the responsibilities of a database administrator including performance optimization, tuning, reliability, availability, implementation of business logic, assuring data integrity, and assuring protection of data from loss or misappropriation
- identify the important database objects managed by a RDBS and server
- construct database objects to meet design requirements
- recognize issues related to data retrieval and define steps to take to code efficient SQL query statements to optimize data retrieval
- assess the hardware needed, processing power, and space management needed for dynamic data growth to provide for better data retrieval performance
- identify the impact of the logical design of a database on its physical implementation and how the logical design impacts the retrieval of data from it
- assess the best way to implement business rules recognizing the value of implementing such rules on the server or the client and vice-versa
- recognize impact of telecommunication systems on data transactions
- select tools to use for monitoring the performance of the server objects and for collecting statistics to influence the optimizer
- solve issues pertinent to the management of data migrations and implementations, and integration of emerging technologies

Instructor Information:	Name:	Susan L. Miertschin
	Office:	340 T2
	Phone:	713-743-4038
	E-mail:	Use Blackboard for course email; for an emergency, use smiertsch@uh.edu
	Other:	Some course information is available via the Web through Blackboard Learn. Go to www.uh.edu/blackboard and log in to Blackboard Learn.
		Even though there is a web site with course information, some course information is delivered only in class – in person.

Office Hours: Tuesday   2:30 – 6:30 pm
Wednesday   10:00 – 11:00 am, 2:30 – 4:00 pm
Also by appointment.

Prerequisites: Prerequisites: CIS 3355, 3365, and Computer Information Systems major or minor, or consent of program manager or program coordinator.

Course Requirements: Every student:

1. Must access course information delivered via the Internet. There are numerous labs on campus that provide this access. Home access is highly recommended.

2. Must attend scheduled on-campus classes. Many times there will be an in-class activity that must be completed for credit. There are no make-up opportunities for these, and you do not have to complete every one. You should complete as many as possible and you will have to attend class in order to do so.

3. Must complete assigned readings, hands-on exercises, homework assignments, tutorials, quizzes, and exams. There are many. Most require the use of a computer. Computer assignments may be completed in a College of Technology computer lab or at home if the student has the appropriate hardware and software. Assignments must be turned in by the due date to receive full credit. Late assignments are accepted for partial credit.

4. Must use software compatible with the course materials. The required software is available in College of Technology computing labs.

5. Must complete a midterm exam, final exam, and a course project. Exams cover material from the text, assignments, and lectures. The final exam is comprehensive.

Attendance: Every student must attend scheduled classes. Some information given in class is *only* given in class. If a student misses class, another student may be able to share his or her notes. Every student is responsible for making arrangements with another student regarding missed in-class information.

The course is scheduled in a face-to-face format, which means that time is set aside for three hours on campus class per week. Other course activities will be online activities.

Sometimes there may be online activities in lieu of a scheduled class on campus. An online activity in place of a scheduled on-campus class will be announced in class ahead of time and via the course management system(s).

Often there are in-class activities for which points are awarded. If an in-class activity occurs and you are absent, then you do not earn the in-class points and you may not make them up. You are not penalized for missing in-class activities unless you miss more than 10% of them.

Assignments: Students must complete numerous required assignments of various types. Some are homework assignments (called learning assignments) that are to be completed outside of class and turned in, some are writing assignments that are completed via Blackboard's discussion board tool, some are on-line quizzes, some are hands-on activities for which you provide documentation of your completion, or there may be something else. The average of the assignment grades contributes 40% of the final grade average.

A grader may grade any of the assignments. If you do not agree with the grade the grader awards you may request that the grader re-evaluate. If you still do not agree, you may request that the instructor re-evaluate.

Project	There is hands-on project that each student in the course completes.
Midterm and Final Exams:	There will be a midterm exam and a final exam. Averaged together, these are worth 30%of each student's grade. Exams cover lecture, in-class activities, assignments and text material. Exam dates are scheduled in the syllabus and will be confirmed in class one week before the exam date.
	Make-up exams will not be given for <u>any</u> reason. If you miss the midterm exam, your final exam grade is used to replace the missing grade.
	The final exam is given according to the official UH final exam schedule (http://www.uh.edu/academics/courses-enrollment/final-exam-schedules/). The final exam is comprehensive.
Grades:	Assignments, Quizzes, and in-class Work: 40%
	Average of 2 Exams: 30%
	Final Project: 30%
Textbooks:	To successfully complete the course, each student must purchase the required textbook.
	Murach's Oracle SQL and PL/SQL
	Joel Murach
	©2008 Mike Murach & Associates, Inc.; 627 pp
	ISBN-13: 978-1-890774-50-9
	http://www.murach.com/books/osql/index.htm
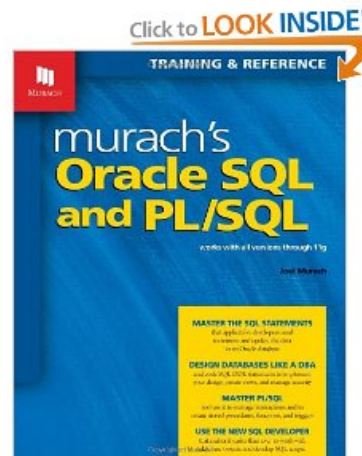
ISBN: 978-1-890774-50-9

Plagiarism:	Plagiarism is a form of cheating. Just as there are penalties for cheating, there are penalties for plagiarism. The minimum penalty is a zero grade for the assignment (or test). The maximum penalty is expulsion from the University of Houston.
	The following information on plagiarism was originally found at http://www.uh.edu/~dbarclay/rm/plagiar.htm, but the link no longer works. I have added a few comments of my own (in italics) that pertain specifically to sharing of programming or application files.
Description of Plagiarism:	Plagiarism is the use of someone else's words or ideas without giving credit. In the academic world, plagiarism is a serious offense with penalties that range from failing grades to expulsion. Plagiarism is easy to detect, so your chances of getting away with it are slim. There are two kinds of plagiarism--

intentional and unintentional.

Intentional plagiarism occurs when writers or researchers know full well they are passing off someone else's words or ideas as their own. Purchasing pre-written research papers through the mail or via the Internet is a blatant form of intentional plagiarism that is fairly easy to detect.

Copying someone else's computer program, command script, or application files, and turning them in as your own is plagiarism. Even if you change a few lines of code, the work is not your own. This is cheating. It is also easy to detect. For example, it is highly unlikely that any two of you will choose exactly the same names for all the objects in a program if you work independently.

Unintentional plagiarism is more common than the intentional type. It occurs when writers and researchers use the words or ideas of others but fail to give credit to the source--because they either don't know when to give credit or don't know how to give credit.

If another student gives you ideas about what code structure is needed to accomplish certain functionality, but you write the code lines and make it work on your own, this is not unintentional plagiarism. It is OK. If you copy another student's code, then that is plagiarism, and it is not OK.

Avoiding Plagiarism:

<u>When to give credit</u>

You need to give credit when you directly quote someone else's words or use their ideas in your own words.

Direct quotation is using someone else's words exactly as they were written in the original source. When you quote, you must use quotation marks or (for lengthy quotations) indentation to indicate which words you quoted. You must also give credit to whoever originally wrote or spoke the words.

Sometimes you can find complete code elements on the Internet. If you do this and use something like this, you should credit the source by including a comment line stating where you got the code.

Paraphrasing is taking someone else's idea and putting it into your own words. You do not need to put quotation marks around a paraphrase, but just as with a quotation you must give credit to the originator of the idea you are paraphrasing.

With respect to programming, sometimes a classmate or friend will help you by suggesting a coding strategy to use for a particular functionality. You do not have to credit the source in this case.

Avoiding Plagiarism:

When do you not have to give credit?

You don't have to give credit when you are expressing your own ideas in your own words or when you are expressing common knowledge. Common knowledge includes ideas or facts that are so widely accepted that it is not necessary to cite a source. For example, the height of the Empire State Building is common knowledge because there is no serious disagreement over the height and because this information can be found and verified in a number of different sources.

In the world of programming, various sorting algorithms, for example, are well documented in the literature. You do not have to give credit when you implement an algorithm developed by someone else. You also do not have to give credit when you use code encapsulated as objects/classes in public or proprietary class code libraries.

How to give credit

You give credit by citing information you use in your papers and reports. Software such as EndNote and RefWorks can help you create correct citations.

Use comment lines in code modules to credit the source of the code.

Academic Honesty Policy:

Students are expected to abide by the university's academic honesty policy in all matters concerning this course. Refer to (www.uh.edu/academics/catalog/policies/academ-reg/academic-honesty/).

Time Requirements:

The class is scheduled in a face-to-face format to meet three hours each week; however additional hours are required. There is a general 'rule-of-thumb' that pursuing 1 hour of college credit during a regular semester requires an average student to spend 1 hour per week in the classroom plus a *minimum* of 3 more hours per week outside of class studying, working on assignments, doing research, etc. Some students need to spend more time on some courses. This means an average student in CIS 4338 should budget about 12 hours per week to spend on the course material (including class time).

Other Policies:

Grade Less Than C for ILT Majors

ILT majors (CIS, TELS, and SCLT) who do not make a C or better in any courses required for their specific major must retake the course. A course may be taken only 3 times.

Extended Absence

In the event of an extended absence, consult the Vice Provost for Student Affairs to determine whether a medical withdrawal is appropriate.

Student Accommodations Under the Americans With Disabilities Act

When possible, and in accordance with 504/ADA guidelines, the instructor will attempt to provide reasonable academic accommodations to students who request and require them. Please call the Center for Students with Disabilities at ext 3-5400 for more assistance. Students with special needs should inform the instructor at the beginning of the semester.

Student Absences on Religious Holidays

Section 51.911 of the Texas Education Code requires that an institution of

higher education shall allow a student who is absent from class for the observance of a religious holy day to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. The student, not later than the 15th calendar day after the first day of the semester, or the 7th calendar day of a summer session, must notify the instructor of each scheduled class day that he/she would be absent for a religious holy day. Refer to the Academic Calendar for the deadline date for notification by students to the faculty members of the student's intent to be absent on religious holy days.

Computer Problems

Computer problems, especially problems encountered at home, are not an excuse for not completing an activity or assignment on time. Plan ahead and don't wait until the last moment to submit an assignment or exam.

Other Information:

Academic Calendar

The Academic Calendar for the current academic year and semester can be found at www.uh.edu/academics/catalog/academic-calendar/.

Find an Advisor

Students who have been admitted to a particular college or department should seek advising from there. Information about advising and advisors in the College of Technology can be found at www.tech.uh.edu/college/academic-services-center/.

Undergraduate students who have not chosen a major should seek information using www.usd.uh.edu/ or www.uh.edu/maps/buildings/SSC or at 713-743-8985. For further information, please review the Undergraduate Studies Catalog section www.uh.edu/academics/catalog/.

Services for Students with Disabilities

The University of Houston seeks to ensure that the educational resources it offers are as widely accessible as possible.

For detailed information, including documentation requirements, listings of available academic support services, test administration policies, parking accommodations/requirements, and more, please refer to the web site for the Justin Dart Jr. Center for Students with DisABILITIES.

Justin Dart, Jr. Center for Students with DisABILITIES

CSD Building #568, Room #110

University of Houston

Houston, Texas 77204-3022

Phone: (713) 743-5400

Email: uhcsd@uh.edu

And Don't Forget:

Have a GREAT semester!!!!!

TENTATIVE COURSE SCHEDULE

Updates to the tentative schedule of assignments and readings will be made in class or via the course web site in Blackboard.
Reading assignments are to be completed *prior* to class.

WEEK	DATE	UNIT / TOPICS / EVENT	ASSIGNMENT DUE	ASSIGNMENT DUE LATER
Wk#1	Monday, 27 Aug	Review: Relational Databases and SQL MS SQL Server 2008 Enterprise Management Studio	In Murach: Read Chapter 1 An Introduction to Relational Databases and SQL Read Chapter 3: How to Retrieve Data from a Single Table	
Wk#2	Monday, 03 Sep	Review (continued) Get Set Up	Access the server Explore software options	In Murach: Read Chapter 4: How to Retrieve Data from Two or More Tables Read Chapter 5: How to Code Summary Queries
	Monday, 03 Sep	Labor Day Holiday	No class, but there may be an online activity during the week	
	Tuesday, 04 Sep	Last day to add a class	Add any classes by this date	
Wk#3	Monday, 10 Sep	Table Joins Aggregate Functions and Group By Project A	Quiz #1 covers Chapters 1 and 3 in Murach plus material covered in previous class	In Murach: Read Chapter 6: How to Code Subqueries Read Chapter 7: How to Insert, Update, and Delete Data Project A

WEEK	DATE	UNIT / TOPICS / EVENT	ASSIGNMENT DUE	ASSIGNMENT DUE LATER
	Wednes-day, 12 Sep	ORD - Official Reporting Day (12th class day) Last day to drop a course or withdraw without receiving a grade. Last day to drop a course without hours counting towards the Enrollment Cap for Texas Residents. NOTE: Tuition is higher for hours in excess of the cap.	Drop the course on or before this day and it is as if you never registered for it – with respect to your permanent record. This has nothing to do with policies about refunds.	
Wk#4	Monday, 17 Sep	Subqueries Inserting Data Changing Data	Quiz #2 covers Chapters 4 and 5 in Murach plus material covered in previous class	In Murach: Read Chapter 8: How to Work with Data Types and Functions Read Chapter 10: How to Create Tables, Indexes, and Sequences
Wk#5	Monday, 24 Sep	Data Types Built-in Functions Creating Tables, Indexes, and Sequences	Quiz #3 covers Chapters 6, and 7 in Murach plus material covered in previous class	In Murach: Read Chapter 11: How to Create Views
	Friday, 28 Sep	End of regular filing period to apply online for Fall 2012 graduation with non-refundable $25 fee. Go to myUH (Peoplesoft) to apply.		

WEEK	DATE	UNIT / TOPICS / EVENT	ASSIGNMENT DUE	ASSIGNMENT DUE LATER
	Saturday, 29 Sep	Beginning of late filing period to apply online for Fall 2012 graduation with non-refundable $50 fee. Go to myUH (Peoplesoft) to apply.		
Wk#6	Monday, 01 Oct	Creating and Using Views	Quiz #4 covers Chapters 8 and 10 in Murach plus material covered in previous class	Read Chapter 13: How to Write PL/SQL Code Read Chapter 14: How to Manage Transactions and Locking
Wk#7	Monday, 08 Oct	Extensions to SQL Transactions and Locking	Quiz #5 covers Chapter 11 in Murach plus material covered in previous class	Study for Midterm Exam
Wk#8	Monday, 15 Oct	Midterm Exam	Midterm Exam covers Chapter 1, 3, 4, 5, 6, 7, 8, 10, and 11 in Murach plus corresponding material covered in class	In Murach: Read Chapter 15: How to create stored procedures and functions
Wk#9	Monday, 22 Oct	Stored Procedures	Quiz #6 covers Chapters 13 and 14 in Murach plus material covered in previous class	In Murach: Read Chapter 16: How to create Triggers
	Friday, 26 Oct	End of late filing period to apply online for graduation with $50 non-refundable fee. Go to myUH (Peoplesoft) to apply.	Too late to apply for graduation this semester after this date.	

WEEK	DATE	UNIT / TOPICS / EVENT	ASSIGNMENT DUE	ASSIGNMENT DUE LATER
Wk#10	Monday, 29 Oct	Triggers Project B	Quiz #7 covers Chapter 15 in Murach plus material covered in previous class Project A Due	In Murach: Read Chapter 17: How to work with timestamps and intervals Project B
	Friday, 02 Nov	Last day to drop a course or withdraw with a 'W'	Do not forget to drop by this date if you need to.	
Wk#11	Monday, 05 Nov	Working with Dates and Times Project B	Quiz #8 covers Chapter 16 in Murach plus material covered in previous class	In Murach: Read Chapter 18 How to work with large objects
Wk#12	Monday, 12 Nov	Working with Large Objects Project B	Quiz #9 covers Chapter 17 in Murach plus material covered in class	
Wk#13	Monday, 19 Nov	Project B		
	Wednes-day, 21 Nov	Thanksgiving Holiday	No class	
	Thursday, 22 Nov	Thanksgiving Holiday	Happy Thanksgiving! Don't eat too much.	
	Friday, 23 Nov	Thanksgiving Holiday	No class	
	Saturday, 24 Nov	Thanksgiving Holiday	No class	
Wk#14	Monday, 26 Nov	Project B		
Wk#15	Monday, 03 Dec	Project B	Project B Due	
	Saturday, 08 Dec	Last day of regular classes for Fall 2012 semester	No regular classes after this date	

WEEK	DATE	UNIT / TOPICS / EVENT	ASSIGNMENT DUE	ASSIGNMENT DUE LATER
Wk#16	Monday, 10 Dec		Prepare for Final Exam for CIS 4338	
	Monday, 10 Dec	Make up day for class days officially cancelled by the university (if necessary) or Reading Period		
	Tuesday, 11 Dec	Final Examination Period begins		
Wk#17	Monday, 17 Dec	Final Examination Period		
	Monday, 17 Dec, 8-11 PM	Final Exam for CIS 4338 Section 20372	Final Exam for CIS 4338 Section 20372 is from 8 – 11 PM	
	Thursday, 20 Dec	Official Closing of Fall 2012 Semester		

IMPORTANT DATES TO REMEMBER

Important Date	Reason
Monday, 03 Sep	Labor Day Holiday – no class on campus
Monday, 10 Sep	Quiz 1
Wednesday, 12 Sep	Last Day to Drop a course without hours counting toward the Enrollment Cap for Texas Residents. Last Day to Drop a course or withdraw without receiving a grade.
Monday, 17 Sep	Quiz 2
Monday, 24 Sep	Quiz 3
Monday, 01 Oct	Quiz 4
Monday, 08 Oct	Quiz 5
Monday, 15 Oct	Midterm Exam
Monday, 22 Oct	Quiz 6 Due

Important Date	Reason
Monday, 29 Oct	Project A Due Quiz 7
Friday, 02 Nov	Last Day to Drop a course or withdraw with a 'W'
Monday, 05 Nov	Start Project B Quiz 8
Monday, 12 Nov	Quiz 9
Monday, 03 Dec	Project B Due
Monday, 10 Dec	Makeup Class Day As Needed
Monday, 17 Dec	Final Exam for CIS 4338 Section 20372, 8 – 11 PM
Thursday, 20 Dec	Official Close of Fall 2012 Semester

For CIS 4338 Students

CIS 4338 will be using Blackboard Learn.

● **What is Blackboard Learn?**
Blackboard Learn is an online course system with tools that help instructors put course material online. **Blackboard Learn** is a newer version than Blackboard Vista.

● **How will I get my Blackboard Learn User Name?**
You will **NOT** have access to courses in Blackboard Learn unless your instructor uses use Blackboard Learn for your course. It is possible to enroll in several courses that use Blackboard Learn and several that still use Blackboard Vist. For Blackboard Learn, your user name is your CougarNet userid and your password is the same one you use to log on to the Cougarnet domain. For Blackboard Vista, your user name is your PeopleSoft ID.

● **What's my password for Blackboard Learn?**
You access Blackboard Learn with the same credentials that you use to access resources managed by the CougarNet domain. If you need to reset your CougarNet password, click on the Password Reset option at www.uh.edu/infotech/.

● **Where do I find my Blackboard Learn courses?**
Once you understand what your user name and password are, go to www.uh.edu/blackboard. Click the white and red "Log in Here Blackboard Learn" button. Enter your CougarNet userid and password.
Another way to log into Blackboard Learn is to use AccessUH, which logs you in to a number of different UH services or resources. To use AccessUH, go to https://accessuh.uh.edu/login.php and use your CougarNet userid and password to log in.

● **How do I get help using Blackboard Learn?**
Go to www.uh.edu/blackboard and click on "Student Help" to see a variety of options. Students can also call 713-743-1411 or send email to support@uh.edu.

DISCLAIMER/SYLLABUS CHANGE

While every effort is made to ensure that all information and dates are accurate at the time of creating the syllabus, the instructor reserves the right to make changes to the course as needed. Modifications include, but are not limited to, adding quizzes and changing assignments and/or due dates. Verbal notification at any regularly scheduled class meeting, or through any of the established means of communication such as Blackboard email or announcements, will constitute sufficient notice. Students are responsible for keeping abreast of any changes. The original syllabus will be maintained in Blackboard.